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October 2019

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The Whooping Crane's future

81
fall and winter festivals

Fall migrants in your yard

Saving an Arizona bird sanctuary

Threats to California's Salton Sea

ENDANGERED: About 850 Whooping Cranes exist in the world, in wild, reintroduced, and captive populations. Page 14

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Kevin Key/Shutterstock

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COVER PHOTO Whooping Crane by Scott E. Nelson/Shutterstock

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No mere bird

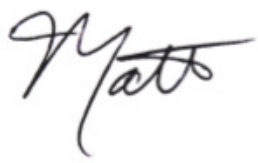
In 1937, when the father of wildlife ecology, Aldo Leopold, wrote the essay "Marshland Elegy," the Greater Sandhill Crane was in steep decline. The essay, part of Leopold's seminal work, *A Sand County Almanac*, laments the loss of cranes in the marshes of Wisconsin, his home state.

The Greater Sandhill subspecies has rebounded from fewer than 1,000 birds to more than 100,000 — a fact that I'm sure would delight Leopold were he here today. In this issue's cover story, I write about the plight of the Whooping Crane. It occurs to me that although Leopold had Sandhills in mind, his essay certainly applies to Whoopers in 2019. Here is a frequently quoted yet apt passage:

Our ability to perceive quality in nature begins, as in art, with the pretty. It expands through successive stages of the beautiful to values as yet uncaptured by language. The quality of cranes lies, I think, in this higher gamut, as yet beyond the reach of words.

This much, though, can be said: our appreciation of the crane grows with the slow unraveling of earthly history. His tribe, we now know, stems out of the remote Eocene. The other members of the fauna in which he originated are long since entombed within the hills. When we hear his call we hear no mere bird. We hear the trumpet in the orchestra of evolution. He is the symbol of our untamable past, of that incredible sweep of millennia which underlies and conditions the daily affairs of birds and men.

No mere bird, indeed.



Matt Mendenhall, editor
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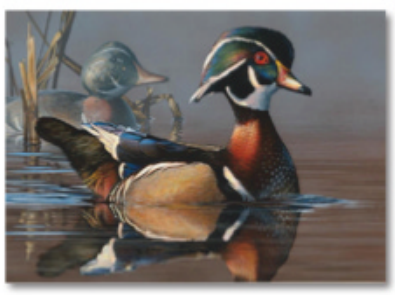
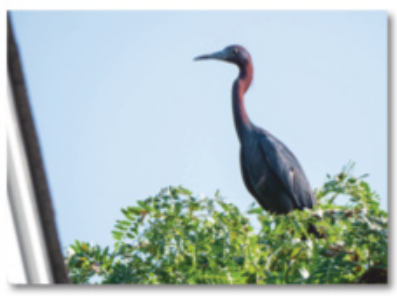
» www.BirdWatchingDaily.com

» PHOTOGRAPHY
View a slideshow of photos from the book *Bringing Back the Birds* by master photographer Owen Deutsch.



» NEWS
The new Federal Duck Stamp is now available. The proceeds from each $25 sale are used to conserve bird habitat.



» CONSERVATION
In July, birders in St. Louis acted fast to save an unusual heron rookery from chainsaws.

Owen Deutsch; Scot Storm; Lisa Saffell

BirdWatching

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Joel Trick/U.S. Fish and Wildlife Service

DOING FINE: Kirtland's Warbler is expected to be removed from the Endangered Species List this year due to long-term positive population trends.

Feds considering status changes for Endangered birds

Conservationists push back on proposals for birds that still need protections

In April, the U.S. Fish and Wildlife Service published a plan to downlist or delist 80 species — mammals, birds, plants, and others — that are currently listed as Threatened or Endangered under the Endangered Species Act. The plan calls for final decisions to be made in the next three years.

Of the 20 bird species on the list, conservationists say many of the potential status changes are warranted, but others are not.

The proposals include delisting Hawaiian Hawk (ʼIo), Interior Least Tern, and Kirtland's Warbler — birds that have recovered well, says Jacob Malcom, director of the Center for Conservation Innovation at Defenders of Wildlife.

Steve Holmer of American Bird Conservancy questions suggestions to either delist or downlist Red-cockaded Woodpecker and Western Yellow-billed Cuckoo, saying they "still need the current level of, or additional, protection."

"In the case of the Western Yellow-billed Cuckoo, we oppose delisting and ask for an upgrading to Endangered status and designation of critical habitat, which is overdue," he says. "We are also concerned and opposed to premature efforts to delist or downgrade the Red-cockaded Woodpecker."

An FWS plan for the woodpecker would request that landowners voluntarily take steps to help birds on their properties for the next 30 years.

FWS would also delist 10 bird species "due to extinction." They include nine birds from Hawaii and other Pacific islands — Poʻouli, Maui Nukupuu, Maui Akepa, Molokai Creeper, Bridled White-eye of Guam, Kauai Akialoa, Kauai ʻOʻo, Large Kauai Thrush, and Kauai Nukupuu.

The tenth species is the Ivory-billed Woodpecker, the last confirmed sighting of which was in 1944.

"Is the Ivory-billed Woodpecker extinct? There's no absolute proof either way," says Mike Parr, ABC president. "We still have hope. As long as rumors about the Ivory-bill circulate, this species may simply be 'lost' rather than extinct."

YOUR QUESTIONS ANSWERED BY BIRD BANDER JULIE CRAVES

Q **I volunteer at a national wildlife refuge and always see Burrowing Owls standing outside their burrows during the day, then out hunting at night. When do they sleep and for how long? —** *Carolyn Vance, Los Alamitos, California*

A The times and places that birds sleep vary widely among different bird families and throughout the year. For example, many diurnal songbirds typically get most of their sleep at night, as you might expect. But if they are migratory species that fly each leg of their journeys overnight, they adjust their sleep schedule and are able to take multiple short naps throughout the day, often each less than 30 seconds.

Burrowing Owls, unlike many owl species that are largely nocturnal, are active both day and night. However, they do much of their hunting of large insects and small rodents at dawn and dusk. Studies have found that after the food-gathering episodes, Burrowing Owls seem to prefer to get most of their sleep just after sunrise or in the middle of the night.

Sometimes the owls will sleep near their burrows on a rock, low branch, fence, or even in clumps of vegetation during migration or in winter. However, they frequently sleep right next to their burrow entrance. Not only

(continued on page 8)

Julie Craves is an ecologist and the retired director of the Rouge River Bird Observatory in Dearborn, Michigan. Read her blog at http://net-results.blogspot.com.

EYE ON CONSERVATION

Alcides Morales

RECOVERING: Record-high numbers of Endangered Roseate Terns nested in the U.S. in 2018.

A turn for the better

Last year, the Roseate Tern population in the United States reached its highest number since 1987, when the northeastern U.S. population was listed as Endangered under the Endangered Species Act. According to the Massachusetts Division of Fisheries and Wildlife, the 2018 U.S. estimate was 4,552 pairs. Canada had an estimated 51 pairs.

The rebound is due in large part to successful habitat restoration and predatory gull management at the birds' three largest breeding colonies, located along the Atlantic coast in Massachusetts and New York. Living much of their lives on the open ocean, Roseate Terns spend only a few months on rocky islets, where they nest. They winter off the northeast coast of South America and in the Caribbean.

Overall, this population estimate is great news, but Roseate Tern numbers remain short of the recovery target goal of 5,000 pairs. And in recent decades, encouraging increases have been followed by declines; possible causes include climate change, sea-level rise, loss of food to commercial fishing fleets, and unknown dangers in the birds' tropical wintering range.

A new threat is also growing: Offshore wind energy development may provide a collision or displacement hazard to the terns and other seabirds. While the Block Island Wind Farm in Rhode Island currently is the only offshore wind facility operating in the U.S., several other areas have already been leased for development in southern New England, including sites in federal waters off the coast of Massachusetts, Rhode Island, and Long Island, New York.

The majority of these prospective wind-energy projects fall within foraging areas used by Roseate Terns before, during, and after the breeding season. Confirming this hazard, new tracking studies have documented Roseate Terns crossing the areas designated for wind-energy development. American Bird Conservancy and other conservation organizations are closely monitoring this potential threat. We're recommending that projects not be sited in high-risk areas for terns and that a mitigation fund be created to pay for the population's continued recovery.

American Bird Conservancy is a 501(c)(3), not-for-profit organization whose mission is to conserve native birds and their habitats throughout the Americas. Learn more about its work on wind energy at abcbirds.org/program/wind-energy-and-birds.

Birders hope to save a sanctuary

Friends raising funds to purchase a beloved Arizona property

Sightings of Plain-capped Starthroat, a hummingbird from western Mexico, in 2002 and 2003 put Ash Canyon Bed and Breakfast on the birding world's map. Birders came from far and wide to this southeastern Arizona site to see the rarity. And soon, people realized that the yard attracted Lucifer Hummingbirds unlike anywhere else in the region. Later, Montezuma Quail became a nearly year-round visitor.

The site's owner, Mary Jo Ballator, opened up her yard to visiting birders, and she continued to keep it open even after health reasons forced her to close the bed and breakfast. Ballator died in late May at age 74, leaving a legacy of generosity, friendship, and love for the region's birding community.

The property has been renamed the Mary Jo Ballator Nature Sanctuary, and it reopened to the public in mid-July, Thursdays through Tuesdays. Now, her friends are working to raise funds to purchase it. Rob Gallucci, a photographer, set up a GoFundMe page in hopes of raising $500,000.

"Our immediate goal is to make sure we cover costs for daily operation, including feed and any directly related costs," he explains. "Our more ambitious long-term goal, with the encouragement of Mary Jo's children, is to ensure the continued access of the sanctuary to birders, scientists, academia, and youth. Thankfully, a group of volunteers, including Mary Jo's son David, has been formed to manage the daily feeding of the birds and upkeep of the property. It is expensive to maintain the yard, and there is a lot of work to be done, both on projects Mary Jo had started and others to keep the sanctuary accessible."

Gallucci says the money would enable the purchase of the property and to make needed renovations to open the facility to schools for education field trips and, possibly, to university ornithology departments for collaborative studies.

If you would like to contribute, go to www.gofundme.com and search for "Friends of Mary Jo Ballator."

Southeastern Arizona Bird Observatory

UNRIVALED: Mary Jo Ballator at her Arizona sanctuary, with her pet African Grey Parrot.

(continued from page 6)

do Burrowing Owls have a nest burrow, but they usually also have roosting burrows used for shelter, especially outside the breeding season.

Q **What makes a group of hawks a "kettle?" —** *Clair Van Buren, Bloomington, Indiana*

A Hawks and other raptors migrate during the day. As the sun heats the ground, warm air rises from the earth. Certain geographic features, including natural topography or human-built areas, can vary the rate and location of heating, creating columns of warm, ascending air. Birds can enter these updrafts, and by flying or soaring in a circle within the column, they can be lifted high into the sky. As the birds reach a height where the column dissipates because it meets increasingly cooler air, they can simply set their wings and glide down into another thermal in the direction they are headed. Using this method, the birds can travel quite far while conserving energy, as it takes far less effort than constant flapping.

The sight of a group of hawks taking advantage of a thermal, all swirling and spiraling, is reminiscent of objects being stirred or boiling in a pot — hence the terms a "kettle of hawks" or "hawks kettling."

Thermals do not form until the sun is sufficiently high in the sky, usually mid-morning, so observing kettles of hawks doesn't require rising at the crack of dawn. Nor do thermals form over water. Notably, migrating hawks will lose altitude as they cross a lake or large river, so sites located near shorelines are great places to

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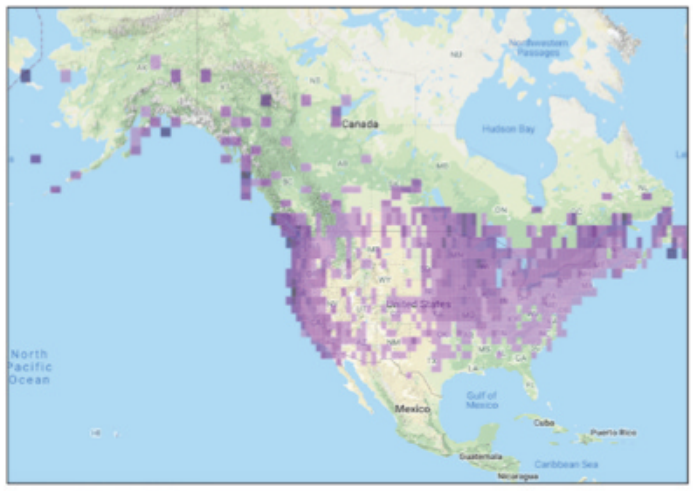
ON THE MOVE FROM eBIRD

Maps show seasonal movements of a sparrow and grebe

Fox Sparrow



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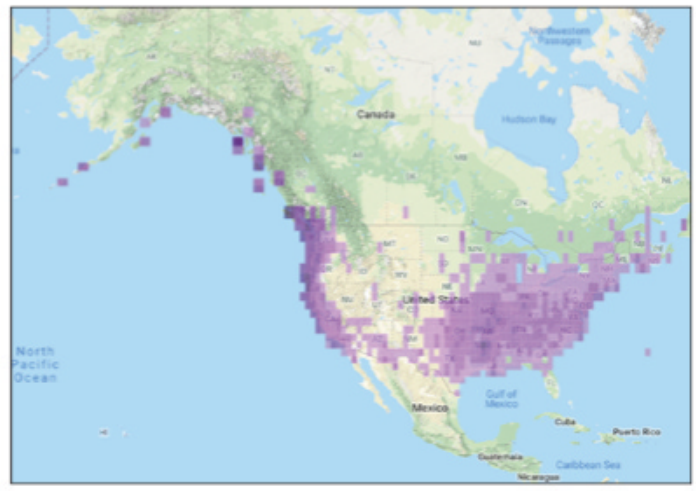
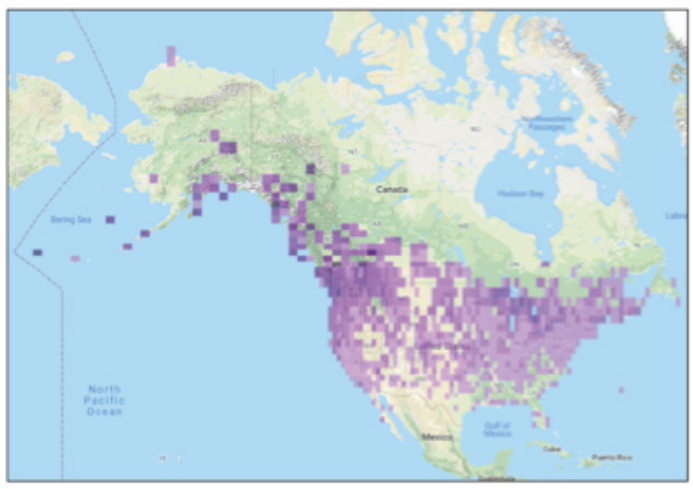


January 2008-18

Fox Sparrow is one of the most geographically variable bird species in North America. Experts have identified at least 18 subspecies partitioned into three or four distinct groups that each differ in breeding habitat, vocalizations, plumage, and behavior. The species breeds in montane forest across the northern boreal forest of Canada and Alaska and in the western United States, generally preferring streamside thickets and chaparral. By October, Fox Sparrows have vacated the breeding range and can be found across most of the lower 48 states in dense thickets, where they commonly occur with other sparrows seeking similar habitats. During the nonbreeding season in January, the species is found in the eastern states, especially the Southeast, and along the entire Pacific Coast from coastal British Columbia to southern California. Listen for the species' loud *smack* call, a sure giveaway that a bird is lurking out of sight in deep brush.

Horned Grebe



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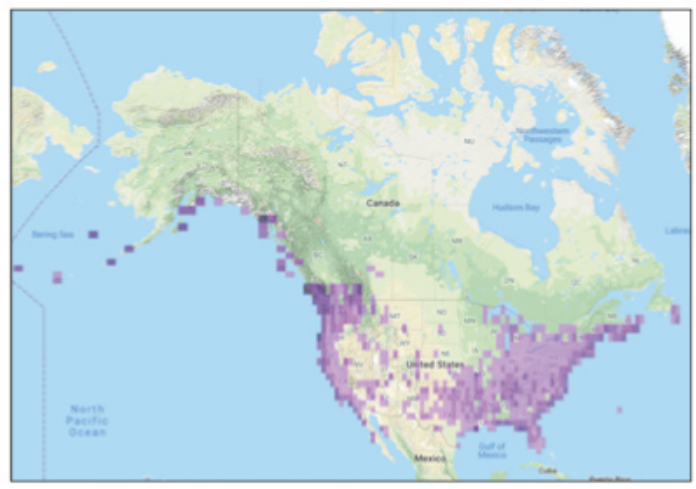

January 2008-18

The Horned Grebe is known to most North American birders only from the nonbreeding grounds and during migration, where it occurs across nearly all of southern Canada and the lower 48 states. During the breeding season, however, the species is found from central Alaska through most of western and central Canada and into portions of Montana and North Dakota, where it breeds in small ponds and lake inlets with emergent vegetation. Horned Grebes nest solitarily or in small clusters of pairs during the breeding season and can occur in large groups of several hundred individuals during the nonbreeding season. In October, look for the species on lakes, large ponds, and reservoirs in inland North America, as well as close to shore along both coasts. During the nonbreeding season, in January, the bird is found primarily from Texas east to the Mid-Atlantic region, and along the entire Pacific Coast.

eBird

eBird is the real-time online checklist operated by the Cornell Lab of Ornithology and Audubon. "On the Move" is written by eBird's Garrett MacDonald, Chris Wood, Marshall Iliff, and Brian Sullivan. Submit your sightings at eBird.org.

Secret life of birds

SECRETIVE: A Boreal Chickadee guards its nest entrance in an old spruce stump at Logy Bay, Newfoundland. The entrance was only a foot off the ground. Boreal Chickadees are less vocal during breeding season, making them difficult to find at this time.

Geoff Smith

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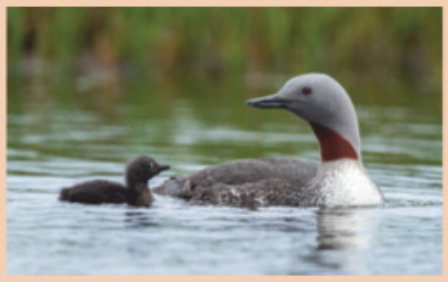
(continued from page 8)

watch migrating hawks as they arrive onshore at lower altitudes before they're able to "catch" a new thermal to ride.

Learn more about raptor migration at the website of the Hawk Migration Association of North America (hmana.org), and discover great fall hawk-watching locations in this *BirdWatching* article: http://bit.ly/watch-hawks.

Q What birds breed the farthest north? — *Peter Iron, Albany, New York*



Mats B/Shutterstock

A Red-throated Loon and its chick.

A surprising number of birds nest north of the Arctic Circle, located at approximately 66 degrees north latitude. On the few land masses north of 80 degrees — northern Ellesmere Island (Canada), extreme northern Greenland (Denmark) and Svalbard (Norway), and the Russia archipelagos of Franz Josef Land and Severnaya Zemlya — a handful of species have been recorded breeding. They include waterfowl such as Brant and Red-throated Loon; seabirds like Ivory Gull, Arctic Tern, Black-legged Kittiwake, and Dovekie (or Little Auk); several shorebirds such as Sanderling and Purple Sandpiper; and landbirds such as Snowy Owl and Snow Bunting.

Send a question

Send your question to ask@birdwatchingdaily.com or visit www.BirdWatchingDaily.com and look for "Contact us."

PHOTO GALLERY

Recent rare-bird sightings in North America

Larry Imhoff

FIRST IN OHIO: This Limpkin, a wader from Florida, was seen on July 6 at a residential pond in Wayne County west of Canton.

Jill White Smith

FIRST IN COLORADO: This White-tailed Kite was seen in late May in Prowers County, in the southeastern part of the Centennial State.

Demetri Lafkas

FOURTH IN WISCONSIN: This Hooded Oriole, seen at a feeder in Howard on June 2, was the third in the Badger State this past spring.

Owen Schmidt

THIRD IN OREGON: Birders found this Red-headed Woodpecker in early July near Reedsport, in the western part of the state.

Scott Mills

THIRD IN WASHINGTON STATE WATERS: Birders on a pelagic trip with Westport Seabirds saw this Ashy Storm-Petrel on June 15.

Robert Emond

THIRD IN FLORIDA: Birders saw this Red-legged Thrush, a Caribbean songbird, in late June at South Pointe Park in Miami.

Checklist update

Changes include a new name for hummingbirds

The most recent changes to the American Ornithological Society's *Check-list of North American Birds*, published in June, include new names for two hummingbirds and a split of White-winged Scoter.

The Blue-throated and Amethyst-throated Hummingbirds were renamed as Blue-throated and Amethyst-throated Mountain-gems, matching the English names of the five other species in the genus *Lampornis*. Blue-throated is primarily a Mexican species, ranging from Oaxaca north to southeastern Arizona, southern New Mexico, and western Texas. Amethyst-throated is a resident in Mexico and Central America.

The scoter was split into three species, based largely on the continents on which they live. The North American species will retain the common name White-winged Scoter, and its new scientific name will be *Melanitta deglandi*. Velvet Scoter is the new name for the European species, matching the name used by other taxonomic authorities, and it retains the scientific name *M. fusca*. The Asian species, which is considered casual in late spring in northwestern Alaska, will be Stejneger's Scoter *(M. stejnegeri)*.

The AOS classification committee also made changes for birds from south of the U.S.: Vermiculated Screech-Owl was split into Middle American and Choco Screech-Owls. Socorro Parakeet was split from Green Parakeet. Yucatan Gnatcatcher was split from White-lored Gnatcatcher. Blue-vented Hummingbird was split from Steely-vented Hummingbird. And Orange-bellied Trogon was lumped with Collared Trogon.

The committee rejected proposals to split Northern Fulmar into two species, to split Harlan's Hawk from Red-tailed Hawk, and to change the common names of Saltmarsh Sparrow and McCown's Longspur.

Birds in art

British artist headlines annual exhibition

The 44th annual "Birds in Art" exhibition opens on Saturday, September 7, at the Leigh Yawkey Woodson Art Museum in Wausau, Wisconsin. British colored-pencil artist Alan Woollett is the museum's 2019 Master Artist. The exhibition, on view through December 1, will feature a selection of Woollett's artwork along with more than 100 original paintings, sculptures, and graphics created within the last three years by artists from throughout the world.

Learn more at www.lywam.org.

EXPERTISE: Naturalist and author Scott Weidensaul is an instructor at Hog Island.

Idyllic and iconic

At Hog Island Audubon Camp, you can learn, bird, and indulge your senses

Hog Island Audubon Camp is summer camp for adults, an immersion in birds and birding in the company of like-minded, soon-to-be lifelong friends, in an idyllic and iconic setting.

Opening its doors to a mostly teacher clientele in 1936, this island retreat has been a touchstone among birders ever since. It offers a suite of week-long courses, scheduled June through September, taught by some of birding and ornithology's most celebrated figures, your week at "Hog" will not only be one of your most cherished memories, but also it will place you in a very exclusive club.

Yes, you'll see Atlantic Puffin.

Yes, you'll dine on lobster.

Yes, you will get to engage one on one with the Wayne Petersens, Steve Kresses, and Scott Weidensauls of the world. At a birding festival, you can sit in the audience and watch Scott weave his magic, or you can go to Hog, sit at the dinner table and say: "Hey Scott, pass the potatoes, please."

You may have to ask twice because Scott is almost certainly discoursing on his latest writing project or the fine points of alcid identification. Atlantic Puffins are not the only alcids in Maine waters; Razorbills are almost assured, and Black Guillemots habitually cruise the quarter-mile-wide inlet between the island and the mainland. While you will see a variety of birds, the focus at Hog is now as it

My favorite time at Hog is the hour before breakfast, when I and other early-rising campers cradle mugs of coffee and trade anecdotes as we watch treetop warblers come down to the drip and listen to the yodel of Common Loons and the keening cry of Herring Gulls.

was nearly a century ago, on learning about birds in a friendly, nurturing environment at one of the planet's greatest outdoor classrooms.

Besides the people you'll meet, what I like most about Hog is the rich sensory experience.

The nose-tickling brine smell of cold, clear ocean water; the throaty chug of the lobster boats heading out before dawn (letting you know you still have a few minutes to savor the warmth beneath your blankets). While you linger, you can enjoy a medley of bird sounds rising with the dawn — the fog-muffled grunt of eiders, the buzzy incantation of Black-throated Green Warbler, the hypersonic tirade of Blackburnian Warbler, the scolding whistle of the resident Osprey, the irreverent chortle of ravens, and the torrent of notes that is a Winter Wren's song. If not the birds, then the smell of breakfast will ultimately drive you from bed and into a new day of discovery.

The one thing you will mercifully not hear is a smartphone. Depending upon your carrier, reception on the island is spotty, although Internet service is available in the dining hall.

My favorite time at Hog is the hour before breakfast, when I and other early-rising campers cradle mugs of

Jean Hall

ENGAGING: Pete Dunne chats with a Hog Island camp attendee.

coffee and trade anecdotes as we watch treetop warblers come down to the drip and listen to the yodel of Common Loons and the keening cry of Herring Gulls. If you don't already know the difference between the cry of Herring Gull and the gruff snort of Great-blacked Gull, you will before day two.

Before the morning mist clears, we'll break into smaller groups for the optional morning bird walks, eyes turned skyward, heedless of the dew-laden ferns anointing pants legs with the night's sparkling tribute. Don't worry, nobody's going to yell at you for having wet feet. The moment you step onto the deck of the *Snow Goose* for the short trip to the island, adulthood and all its admonishments and obligations fall behind.

After breakfast, preordained groups disperse for their scheduled activities. "Parulas" to the shakedown cruise around the island; "Guillemots" to the Queen Mary lab for a morning-long, hands-on exploration of Maine bird ecology. Too soon, the meal bell sounds for lunch, and we are forced into the reflected sparkle and unbridled sunshine of coastal Maine.

One of the week's most popular outings is the walk on the mainland. Pioneered by Roger Tory Peterson when he was a young instructor, the walk remains true to that path laid out by RTP, encompassing an array of habitats. Typical species include Chestnut-sided Warbler, Bobolink, Alder Flycatcher, and Virginia Rail (how's that for diversity?).

Sadly, and all too soon it's time for the Friday evening farewell lobster cookout. Leave room for the surprise dessert. In the morning, Captain Bill and the *Snow Goose* will ferry campers back across the channel and to lives suspended but now transformed. You have become an emissary of Hog Island. Go forth and share what you have learned.

My new mantra, foraged this past June at Hog, is:

Be aware.

Be curious.

Share what you have discovered with a friend.

Keep a journal for yourself.

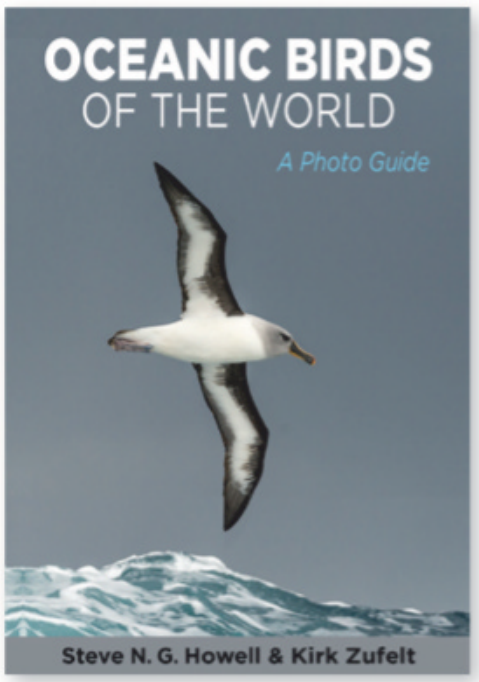
As I write, the delicious light of a Maine summer is gilding the back room that is my office with taffy-colored light. A Pileated Woodpecker is beckoning. Sorry to cut this short, but discoveries await.

See you next year?

Be well,
Pete, Hog Island instructor

Pete also wrote about Hog Island in our October 2010 issue. You can read the article, titled "Back to the source," on our website: www.birdwatchingdaily.com/author/pete-dunne

Pete Dunne is the retired director of the Cape May Bird Observatory, the founder of the World Series of Birding, the Cape May Hawk Watch's first official encounter, and the author or co-author of many books, including *Gulls Simplified, Birds of Prey, Hawks in Flight,* and *The Art of Pishing.*



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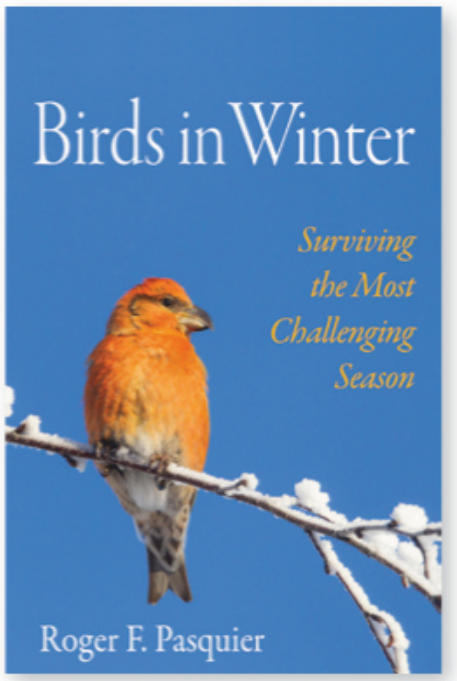

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Hog Island Audubon Camp

A cloudy future

Whooping Cranes have made a steady return from the brink of extinction, but sea-level rise due to climate change poses a serious coming threat

BY MATT MENDENHALL

This past February, I crossed two related but distinct items off my bucket list. I attended the Whooping Crane Festival in Port Aransas, Texas, an event I had wanted to take part in for years. And I saw truly wild Whooping Cranes for the first time — four white adults and one tawny-headed juvenile.

I'd bet a dollar that, if you're a birder, these experiences are on your bucket list, too. The 23-year-old festival features a great lineup of speakers, including George Archibald of the International Crane Foundation, excellent birding tours, and a lively vendor area. And when you live in Wisconsin, like I do, it's a no-brainer to want to spend a few days in winter on the Texas coast.

Whether you have seen 30 species of birds or 3,000, when you can add the Whooping Crane to your life list, you should savor the moment. Because, of course, it's not simply one more bird. It's a species that was driven up to the cliff of extinction just eight decades ago, when its population was in the low 20s — including just four breeding females — and has been pulled back from the brink thanks to the dedication of conservations, government biologists, zoos, pilots, and many others.

It's a species whose breeding grounds, in the vast Wood Buffalo National Park in far northern Canada, were not discovered until 1954.

And it's a species that has captured the public's imagination like few other North American birds. Even without its up-and-down recovery story, the Whooper demands attention — it stands nearly 5 feet tall (making it the tallest bird in North America), is all white with black primaries and a red crown, and makes an unforgettable *ker-loo* call over the marshes it inhabits.

Overall, the crane's prospects have been on the upswing in recent years, especially as the Aransas-Wood Buffalo population grew in 2018 to a record 505 birds. But as I learned at the festival, the future for Whooping Cranes is cloudy at best.

RECENT HISTORY

Before we look ahead, let's review the crane's story.

Overhunting and habitat loss reduced the crane's numbers from an estimated 10,000 before European settlement of North America to about 1,300 by 1870. The trend continued into the 1930s, when the Aransas-Wood Buffalo flock declined to just 15 birds. A hurricane wiped out many birds from a nearby Louisiana flock, leaving only 21 wild and two captive cranes in the world in 1941.

Recovery was quite slow for the next 30 years, but public awareness of the species grew as more people learned about it. In 1967, the crane was one of the original 75 species listed as Endangered in the U.S., a status it retains to this day.

In the 1970s and early '80s, when the species numbered fewer than 100 birds, Archibald famously danced with a captive female crane named Tex that had imprinted on people, and she eventually laid a viable egg. The story produced an invitation for Archibald to appear on "The Tonight Show" in June 1982. Sadly, the night before Archibald went on the show, Tex was killed when raccoons got into her enclosure. He told the news to a shocked Johnny Carson and his vast audience.

Tex's son, Gee Whiz, would go on to sire many birds, including some that have been released in Wisconsin and Florida.

Over the decades, as captive breeding populations were established and the wild flock that winters in Texas and breeds at Wood Buffalo grew, biologists wanted an insurance policy. Or two. The small wild flock was (and still is) vulnerable to a catastrophe, such as a hurricane or an oil spill in the shipping channel next to Aransas National Wildlife Refuge. So,

Richard Seeley/Shutterstock

HUGE: A Whooping Crane at Aransas National Wildlife Refuge in Texas. The bird's wingspan can measure up to 7 feet, 7 inches.

WINTERING: A pair of Whoopers forage at Aransas. Telemetry studies have shown that while some cranes stay on a territory all winter, others move around often.

government agencies and nonprofits have worked to establish other breeding populations.

In the mid-1970s, they tried cross-fostering eggs in the nests of Sandhill Cranes in Idaho, but while the Whoopers learned to migrate with their cousins, they also imprinted on Sandhills. The Whooping Cranes failed to mate, and the project was discontinued.

In 1993, a non-migratory population was established near Kissimmee, Florida, and through 2004, 289 captive-bred birds were released. However, high mortality and low reproductive success led to the project being discontinued. In 2018, 14 cranes remained, and the U.S. Fish and Wildlife Service proposed a plan to relocate at least a few of them to a more recently established population in Louisiana. In February 2019, a 21-year-old female and her 4-year-old daughter were caught and transferred to the Louisiana flock.

The third attempt to create a new breeding population began in 2001, when young cranes raised by costumed handlers were trained to follow ultralight aircraft along a migration route from Wisconsin to Florida. The Whooping Crane Eastern Partnership, a coalition of government agencies and nonprofits, oversees the flock's management.

The birds were led south by the crew of Operation Migration, a Canada-based nonprofit. The sight of endangered birds following one-person ultralights garnered a lot of media attention and a loyal following of "craniacs" online.

'Everything with Whooping Cranes is slow and requires a lot of patience, and that's frustrating and hard at times.'

"For 15 years, Operation Migration pilots and a dedicated ground crew led Whooping Cranes on a journey toward survival," the group says on its website. "During those years, we contributed more than $10 million and covered 17,457 miles with a total of 186 trusting Whooping Cranes trailing off our wingtips.

"Each of the cranes that survived the winter period in Florida returned north the following spring and continued to migrate annually thereafter."

Nevertheless, breeding success was limited, and the Fish and Wildlife Service decided in early 2016 to discontinue the ultralight-guided flocks in favor of other release methods. Operation Migration continued to be involved until August 2018, when it resigned from the WCEP over disagreements with the management of the flock. Operation Migration dissolved last December.

Through early July 2019, the Eastern Migratory Population numbered 87 cranes, not including young birds. Out of 19 chicks hatched in the wild this summer, five were still alive on July 9. If all survive to fledge, the total would be 92 birds, which would be one of the lowest totals in recent years.

BACK IN CAJUN COUNTRY

Louisiana's 71,905-acre White Lake Wetlands Conservation Area, in the southcentral part of the state, is the home of the fourth reintroduced population. (The site has a history with the species, having hosted a small remnant population into the 1940s.)

The first 10 birds were released at White Lake in 2011, and in subsequent years, up to 27 cranes have been released annually. The first wild-reared chick in Louisiana fledged in 2016, and last year, five chicks joined the population. By March 2019, the population stood at 75 birds. And while they're not migratory, they do tend to wander. One bird, for example, spent last winter at an Alabama wildlife refuge, came back to Louisiana in spring, spent time in Arkansas, and then flew northwest to Oklahoma, where it spent the previous summer. Two others flew to Canada one spring, and one survived and made it back to Louisiana.

"Everything with Whooping Cranes is slow and requires a lot of patience, and that's frustrating and hard at times,"

Marty Oishi/Shutterstock

says Sara Zimorski, a wildlife biologist with the Louisiana Department of Wildlife and Fisheries. "In the big picture, we're still relatively early. Our oldest birds were just 8 years old this spring, and Whooping Cranes are a long-lived species. So, you have to be in it for the long haul."

Most of Louisiana's birds have been raised by costumed handlers — biologists and others who are dressed head to toe in white to resemble adult Whoopers. Lately, Zimorski says, some young birds are being parent-reared: That is, they're raised by captive adult cranes. "The goal is to have those birds, wherever they come from, to start breeding on their own, and then you get that second generation and then down the road a third generation," she says.

A significant problem for all crane populations has been shootings. At least 40 Whoopers have been lost to gunshots in 13 states and provinces since 1967, most in the last 10 years. According to the International Crane Foundation, more than 70 percent of cases were not related to hunting. To combat the problem, the group has worked to raise awareness of Whoopers in Alabama, Texas, and Indiana. The Louisiana Department of Wildlife and Fisheries has done similar work in its state.

"The winter of 2017-18 was the first winter in 10 years that we did not have a Whooping Crane shooting along the eastern flyway," ICF reports. "This is important to note since winter is the most common season for shootings to take place. Our outreach work has helped educate people in both the eastern flyway and in Texas, and we are creating communities that care about Whooping Cranes. This is wonderful news to report, but our work is far from over."

COUNTING CRANES

The Aransas-Wood Buffalo flock, the only naturally occurring Whooping Cranes in the world, produced 97 nests this year, second only to the 98 nests of 2017. It's great news, certainly, but the more important number is the tally of fledged young. In 2017, a record 63 chicks fledged at Wood Buffalo. In 2018, 87 nests were counted but led to only 24 fledglings — a low number but "still within the natural range of variation that we would expect from this species," according to Rhona Kindopp, manager of resource conservation with Parks Canada. (The number of fledglings in 2019 was not available at press time; check our website for the news in mid to late August.)

PRECIOUS: A crane tends to an egg on a nest. Whoopers usually lay two eggs but raise only one chick to fledging.

The other key metric is the annual winter survey of Whoopers at Aransas. Six years ago, the Fish and Wildlife Service switched from an actual count of every bird to a method known as distance sampling. It aims to count most cranes and produces an approximate total.

In the last couple years, the agency has switched from using a Cessna aircraft to a Quest Kodiak, which provides better visibility of the 115,000-acre refuge. And it's conducting the surveys in late January and early February instead of mid-December because biologists found that not all Whoopers make it back to the Aransas area until later in the winter.

The estimate for the winter of 2017-2018 was 505 cranes, although the authors report the number could be as low as 439 or as high as 576. A further 21 birds were assumed to be outside the primary survey area, bases on reports from eBird, a GPS tracking study, and other sources. (The numbers for the 2018-2019 winter also were not available at press time; check our website for an update.)

CRANES AND THE CLIMATE CRISIS

During the festival, Wade Harrell, Whooping Crane recovery coordinator at the Aransas refuge, spoke to a packed room about the bird's conservation status and prospects for its future along the Texas coast.

One of the criteria that could lead to the crane being downgraded to Threatened is for the Aransas-Wood Buffalo population to reach a total of 1,000 individuals, and Harrell said that goal could be reached as soon as 2040 if risks such as habitat loss are minimized.

He noted that research about the habitat on the refuge and surrounding areas has shown that the region could support many more Whooping Cranes (a higher "carrying capacity") than are alive today — a whopping 3,249 cranes. Clearly, the impact of habitat loss and overhunting from centuries past has had a lasting impact on the population.

In the future, however, seas are expected to rise considerably due to the climate crisis. A 2014 study found that 23 to 54 percent of the crane's habitat

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EMERGING: A Whooping Crane hatches on a nest in Louisiana in May. None of the six chicks that hatched in the Louisiana flock this year survived.

Whooping Cranes by the numbers

Aransas-Wood Buffalo flock	505*
Eastern Migratory Population	87
Louisiana Non-migratory Population	75
Florida Non-migratory Population	12
Cranes in captivity	163*
Total	**842**

* 2018 numbers

will be inundated by rising waters by the year 2100. Harrell's projections show that the region that could support 3,249 birds in 2019 could only sustain 1,668 birds 81 years from now — a nearly 50 percent decline in carrying capacity.

That doesn't necessarily mean that today's flock of 500 or so will be cut down to 250 by 2100. No one has a crystal ball. But it's undeniable that the warming planet poses a significant challenge for a species with such low numbers.

"Things could get tight in terms of habitat available on the coast," Harrell says. "I would say that's a rather conservative model in that our assumption behind it is that [the birds] continue to just use coastal marsh habitat. Historically, that's really the only thing that we can model on going forward. But if we look at some of our other reintroduced populations, we see them using a wider variety of habitat types, including agricultural habitats. [For example,] the Louisiana birds are using rice agriculture pretty heavily.

"The best-case scenario is not only will they use coastal marsh but that they will spread into other habitat types farther inland. We've seen a little bit of that during drought periods." During a recent drought, he notes, many cranes spent several months at Granger Lake in central Texas, showing that the birds can winter at a freshwater reservoir. "So, they certainly have a capacity and capability to use other types of habitats. It's just a matter of will they as their population pushes beyond the marsh?"

Archibald, the man who has done more than anyone else on behalf of Whoopers, says he's encouraged by the recent growth of the Aransas-Wood Buffalo flock, and he's guardedly optimistic for the future.

"I'm not complacent to the fact that we have great dangers with sea-level rise, with the threat of contamination from an industrial accident and from the tar sands developments in Alberta, which are just south of Wood Buffalo National Park, with hundreds of acres of poisoned lakes created by the effluent that the cranes could land in and that the fragile arctic ecosystem could be screwed up by."

For me, it was impossible to listen to Harrell's report and think of it as a theoretical discussion of a far-off future. Just 18 months earlier, the town in which we were meeting, Port Aransas, and Mustang Island, which it sits on, took a direct hit from Hurricane Harvey. Its 132-mph winds damaged nearly every structure in the city. Port A, as it's known locally, was busy with tourists and construction and certainly recovering during my visit. But as the climate crisis intensifies, larger and more destructive hurricanes are forecast to occur more often.

If Harvey, which came ashore in August 2017, had hit a few months later, when Whooping Cranes were back in the region, the bird's story today could be considerably different. The storm swamped the Aransas refuge, causing significant damage to the Whoopers' winter home. The refuge's Blackjack Unit lost 20 to 40 feet to erosion during the storm. In May 2019, the Fish and Wildlife Service said it will spend $27 million to replace more than 8 miles of levees, 3 miles of canals, and 33 water-control structures and harden 7 miles of shoreline.

The challenges ahead for the Whooping Crane are great. And while I certainly learned disquieting news during my visit to Port A, the festival named after the iconic bird also gave me renewed hope that advocates will

Louisiana Department of Wildlife and Fisheries

George Archibald on saving cranes

George Archibald

During this year's Whooping Crane Festival, George Archibald, co-founder of the International Crane Foundation and one of the world's most accomplished conservationists, was asked why he dedicated his life to saving cranes. Here's how he replied:

"Well, we only have one life to live, and I discovered cranes when I was 18 years old in Alberta, Canada. That interest led to my graduate studies at Cornell on the evolution of cranes, and at Cornell, I learned a lot about international conservation and about how cranes are doing worldwide. And I knew if somebody didn't do something to help them, we might be losing some of the species in the near future. So, I felt a great responsibility to help this family of birds, and I'm just one individual, so I decided to dedicate my life to helping cranes.

"I think the most significant contribution I've made is to establish a foundation that now has hundreds of people involved in helping cranes, and that effort will continue long after I'm gone."

And what does he want people to know about the Whooping Crane?

"The Whooping Crane is one of the great treasures of North America, and I want to thank all of the people in many states and provinces who have been responsible for helping them. It's the response of the public in general that's made this bird capable of surviving on our human-inhabited continent. I'm grateful to all those people, and I hope that the public will continue to embrace the conservation of the Whooping Crane.

"We have lots of environmental problems with sea-level rise and climate change and industrial development and coastal development. And I hope that our governments and the people in general will always be supportive of protecting our endangered species — Whooping Cranes and everything else."

continue to find ways to help the species. No moment drove that point home as much as this: When our tour boat arrived at the territory of a crane family on the Aransas refuge, a young man on board turned to his girlfriend (both of whom have worked with captive Whoopers), got down on one knee, and asked her to marry him.

She said yes.

Matt Mendenhall

Matt Mendenhall is the editor of BirdWatching.

HUNTING HARRIERS, SEEKING SWALLOWS

Practice photographing these fairly common birds to be ready to shoot other fast-flying species

STORY AND PHOTOS BY WILLIAM JOBES

IT first appeared as a tiny moving spot in the distance, an object gliding effortlessly on invisible waves of wind just a few feet above the rural meadow. With elegance and grace, it flew in a methodical and relentless pattern, evoking images of a military reconnaissance aircraft on a surveillance mission.

Although the bird was still too distant to make out its features, I knew from experience that my quest that day to photograph the Northern Harrier was about to bear fruit. While the destination was reminiscent of images of a barren windswept tundra in the farthest reaches of North America, it was in fact smack dab in the middle of the most densely populated state in America — New Jersey.

I was standing in a field in a public park known as Mercer Meadows, just outside of Lawrenceville, Mercer County, in central New Jersey. The spot was once known simply as the Pole Farm — the place where, in the early to mid-20th century, AT&T erected dozens of tall telephone poles to anchor its wire antennas that transmitted overseas phone calls via high-frequency radio. When AT&T abandoned the site some years ago, it was granted to the county government, which successfully resisted powerful interests determined to populate the natural setting with housing developments. (I wrote about Mercer Meadows in *BirdWatching* in

TEST SUBJECTS: Northern Harrier (left) and Barn Swallow (below) offer challenges and opportunities to birders who want to photograph birds in flight.

February 2014; it's Hotspot Near You No. 178.)

The vast tract of rare rural land was preserved in the uber-civilized and developed Northeast corridor in the name of nature. The result: Preservation of a near-perfect environment for birds and all manner of wild creatures. The harrier I was observing on that particular day was a cold-months visitor from the north, likely having ventured down the eastern side of the North American continent to winter in the comparatively calmer environs of the mid-Atlantic.

In this magazine's May/June 2018 issue, I offered advice for photographing hummingbirds in a backyard, and in the most recent issue, July/August 2019, I reviewed the market for cameras that would appeal to a wide range of birders. In this article, I'll give tips for photographing familiar fast-moving birds at different times of year — species that you can use as "target practice" for perfecting shooting techniques for when less-common birds show up.

That's why I was in Mercer Meadows in late fall and early winter: to hunt harriers. In spring and summer, the bird I seek out is the Barn Swallow. Each species present unique challenges and opportunities to the intrepid bird photographer.

I start my annual quest for harriers in late October here in the mid-Atlantic region, and the search for fledgling Barn Swallows begins in mid-June, as by then they are out of the nests and often quite visible as they venture into brush lands — if you know where to look. Both species have unique characteristics that make them ideal targets for the active bird photographer.

Harriers can be spotted in all manner of rural locations in fall, as they favor hunting over now-brown fields and marshlands. Another favorite personal harrier haunt of mine in New Jersey, besides the Pole Farm in Mercer County, is the Edwin B. Forsythe National Wildlife Refuge just north of Atlantic City. The vast area includes woodlands, coastal marshes, and a miles-long wildlife drive that juts on an elevated roadway far out into the wetlands near the Atlantic Ocean.

The best locations to observe harriers are on vast open spaces, the kinds found on such wildlife refuges or on the shrinking number of privately held farm tracts. Since the birds glide over the landscape, often at a great distance, super telephoto lenses are needed to produce quality photographs. I routinely use a 600mm lens, often with a 1.4x or 1.7x teleconverter to extend the reach. Given the narrow field of view of super telephoto lenses at this focal length, it's easier to acquire harrier sightings with binoculars.

These skilled hunters cover a lot of territory in a short time, skimming right above the deck on their quest for small ground mammals. Once I spot the bird, I begin tracking it with my tripod-mounted camera and lens. While it's tempting to start clicking off shots immediately upon seeing the bird, experience has shown me that the early distant shots are mostly unusable. So, I'll lock onto the bird and wait while it inevitably draws nearer and fills more of the camera sensor frame. That's when I can achieve higher-quality images.

This year, the much-anticipated mid-season arrival of my new Nikon AF-S Nikkor 500mm phase fresnel lens opened even more opportunities. The lightweight lens (only 3.2 pounds)

produces high-quality super telephoto images that compare favorably with much-heavier f/4 500mm and 600mm glass. Thanks to the lighter lens, I was freed from the anchor of a tripod, to easily hike across a lot of open territory and photograph harriers hand-held.

Typically, successful camera settings are shutter speeds of at least 1/2000, with the lens one stop down from wide open. For instance, the Nikon 600mm f/4 would be set to aperture 5.6. The ISO would be set to automatic, to meet light conditions at the moment. Some prefer manual mode for the camera, but shutter priority mode, especially with auto ISO, usually produces excellent results.

Coastal wetlands are also attractive to harriers, and birders and photographers who visit them may be rewarded with sightings of the big raptors as they methodically traverse the airspace just feet above tall, golden marsh grasses. The Forsythe refugee is a geographical magnet for the harriers, as they journey along the East Coast oceanfront in winter months.

Atlantic City's neon-topped casinos pierce the horizon, standing in stark contrast to the natural beauty of the wide-open wetlands at Forsythe, also known to locals as Brigantine, in reference to a nearby town.

It is while standing along the coastal marsh enduring the brisk breezes and fading light of a winter's afternoon that my thoughts often turn with anticipation to the coming warmer months and another seasonal favorite — Barn Swallows. These diminutive fleeting flyers can be a major challenge to the avian photographer. But it is when they're bringing food to patiently perched nestlings that we can see them in all their beauty.

BOTH SPECIES HAVE UNIQUE CHARACTERISTICS THAT MAKE THEM IDEAL TARGETS FOR THE ACTIVE BIRD PHOTOGRAPHER.

The good news is that Barn Swallows are the most prolific of the North American swallows. They can be found in all types of environments, from cities to suburbs and into remote rural areas where they build nests in cliffs and abandoned structures. They are most easily spotted flicking across open fields in early summer.

For the longest time, the birds' wildly erratic flight patterns stymied my countless attempts to photograph them in flight. Several years ago, however, I stumbled upon a discovery that made it much more likely that I'd capture a worthy photograph of a swallow in flight.

The swallow's frenetic flight antics are more than a ploy to annoy photographers. The birds are on the hunt for similarly unpredictable flyers — the insects that are the food for mature birds as well as their nestlings and fledglings. And that realization led me to a successful photographic strategy.

Since adults are swarming to capture insects, I figured that the nest or a fledgling perch must be nearby. At a friend's farm, I found ideal environmental factors for swallows: a barn, an open patch that collected rain water with the resulting mud for nest material, open fields swarming with bugs, and the field-edge thorny bushes where the fledglings held court as they awaited the

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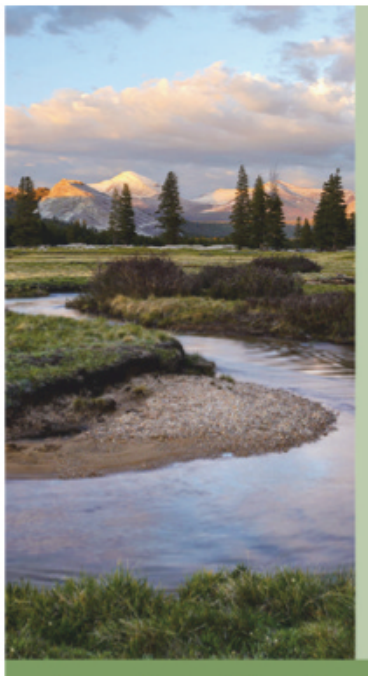

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BIRD OF CONCERN: A juvenile harrier glides over a New Jersey field. The species is widespread across North America but declining in some areas.

insect-bearing parent's arrival.

In fact, I was driving around the farm seeking out hawks when small birds on a twig caught my attention for a fleeting moment. My instinctive processing of the mental image said "sparrows," but I could not have been more mistaken. When a larger bird hovered over the smaller ones, I stopped, reached for my binoculars, and saw a wondrous sight that I almost totally overlooked.

One of nature's most endearing events, a parent giving life-sustaining nourishment to an offspring, was unfolding right before me. Lesson learned: Avoid being hyper-focused on a pre-determined task while out in the natural world. Always reserve some mental energy for keeping all options open. In other words, expect, and plan for, the unexpected. It may sound counter-intuitive to prepare for the unknown, but that essential skill is as easy as remaining alert to your surroundings and being mentally prepared to react instinctively to unexpected photo opportunities. It's what the military calls "situational awareness."

This skill came into play when the adult swallows darted out of seeming oblivion to the fledglings' perch, food at the ready for transfer to hungry young ones. Since the arrival and departure can be fleeting, much like hummingbirds visiting a blossom, proper camera settings boost the odds of a successful image capture.

Though I usually shoot in manual, I can confidently recommend, based on experience in all modes, trying shutter priority at a minimum 1/2000, with matrix metering and ISO set to automatic. These settings have proven the test of time and will produce photographs worthy of your efforts. In fact, if your DSLR body can handle the higher ISOs, consider upping your shutter speed to 1/4000 to be sure to freeze all the frantic motion.

These two seasonal examples of avian photography adventures — chasing down the Barn Swallow and the Northern Harrier — will open the door wide to the engaging and spectacular outdoor world's endless opportunities awaiting camera-toting birders.

William Jobes is a journalist from Langhorne, Pennsylvania, whose experience includes news and sports photojournalism, as well as reporting and editing on staff at several major daily newspapers. In past issues, he has described tips and techniques for photographing hummingbirds and reviewed cameras for birders.

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TARGET ACQUIRED: A diving Belted Kingfisher nabs a fish below the water's surface.

EXPERT ANGLER

Wary and elusive, the lone Belted Kingfisher is all business when it comes to catching fish

BY JO ANN ABELL

Alan Murphy

WHILE WALKING ALONG Buffalo Creek near my home in southwestern Virginia, I flushed a bird from the trees along the bank. The startled bird took off so fast that all I caught was a glimpse of slate blue and white streaking through the treetops. My eyes aren't what they used to be, but I didn't have to see the scruffy crest and dagger-like bill to identify this bird. His hasty departure and raucous, mechanical rattle call echoing down the creek's corridor told me this was the only kingfisher that lives in our area — the Belted Kingfisher.

This flighty species is often heard before it is seen. The slightest disturbance is enough to make the shy bird fly from its perch and sound the alarm as it flashes downstream, sometimes flying so low that it almost seems to touch the water's surface. By listening, you can learn the range of the individual bird's territory. A kingfisher's flight path often traces the waterway, so if you follow the water's course, chances are the bird will call again as you get closer, only to fly farther downstream before calling again. Upon reaching the end of its fishing territory, which averages about six-tenths of a mile, the fisher bird will quietly loop back to the beginning.

A bird more leery of humans than the Belted Kingfisher would be hard to find. Its penchant for secrecy and distrust of people rivals that of any bird ever hunted for meat or feathers. Perhaps its shyness is an asset, especially when people who spot it are motivated to protect fish stocks.

In the 1897 book *Bird Life: A Guide to the Study of our Common Birds*, ornithologist and field-guide pioneer Frank Chapman wrote: "The Kingfisher is generally branded a fish thief and accounted a fair mark for every man with a gun, and were it not for his discretion in judging distances and knowing just when to fly, he would long ago have disappeared from the haunts of man…" In 1918, the Migratory Bird Treaty Act made it illegal to harm migratory birds, including the Belted Kingfisher, but a mid-1940s report said that kingfishers were still being killed and trapped at a private hatchery in Michigan.

Ray Hennessy/Shutterstock

Fast forward to today, and the kingfisher is one of the most widespread land birds in North America, breeding from Alaska to Labrador and south to Florida, Texas, and California. Our mild winters in southwest Virginia provide favorable conditions for this avian angler to stay in place for the winter; however, even in temperate climates, a severe winter can close waterways with ice and wipe out a generation of kingfishers. Those that migrate fly south until they can find open water for fishing. Some individuals overwinter as far south as the Caribbean islands and northern South America.

> A brilliant example of form following function, the Belted Kingfisher is uniquely equipped for a livelihood dependent on catching fish.

The bird's earthy colors act as camouflage, blending into the mottled shadows of the woods and streams where it lives and hunts. To a potential overhead predator, such as a Cooper's or Sharp-shinned Hawk, the kingfisher's blue back and wings seem to blur and become part of the water below. A white neck ring and breast stand out against the blue-gray body plumage, and a tiny white spot over each eye can be seen even from a distance. Males have a wide blue band across the breast; females have an additional rusty band that extends down their flanks. In both sexes, the wings are tipped with white, and tail feathers are barred with white.

WHY THE RED BELT?

Ornithologists have long puzzled over why the female sports a rufous belt crossing her breast below the blue band while the male does not. Typically in birds, males are more colorful than females, but not so in the Belted Kingfisher. The shorthand explanation for differences in plumages — "same roles, same colors; different roles, different colors" — does not seem to fit in this case. Belted Kingfishers cooperate with housekeeping chores and the rearing of their young. So then, if both sexes play much the same roles, why the red band on the female?

One theory is that the flashy band makes it easy for the sexes of this wary and extremely territorial species to recognize each other. Biologist Michael Hamas speculated in the reference series *Birds of North America*, No. 84 (2009), that the color and belts play a role in sexual recognition.

While males sometimes remain in the northern latitudes to keep an eye on a prime nesting site, which is vital to their nesting success, females migrate south for the winter. In the spring, they return to the waiting males. According to Hamas, glimpsing a flash of the female's rufous belt would be a signal to welcome her rather than to expend energy chasing her off. A credible theory, but the jury is still out on this mystery. (For more, see *BirdWatching's* 2011 article "Mysteries of the Kingfisher's Belt," available at www.BirdWatchingDaily.com.)

EXTRA COLOR: Female Belted Kingfishers like this one have a rufous belt across the belly and down the flanks, a color that males don't have. The jury is out on why females are more colorful.

DRESSED FOR SUCCESS

A brilliant example of form following function, the Belted Kingfisher is uniquely equipped for a livelihood dependent on catching fish. A long, stout bill and large head topped by a ragged crest — giving it a roguish, top-heavy look — serve this species well for the business of spotting, diving, and catching fish. Short, weak legs extending from a thickset body are perfect for perching to scan the water for movement, and a special third eyelid closes to protect the bird's eyes while under water. Third and fourth toes are joined as far as the second joint, helpful for pushing out dirt when excavating their nesting tunnel in the steep banks of creeks and streams.

The Belted Kingfisher's generic name, *Ceryle*, comes from the Greek for "seabird," and when it comes to fishing, the kingfisher is in a realm all its own. Sitting immobile on a favorite branch, crest a bristle, when its keen eyes catch the gleam of a fin moving in the water below, the kingfisher becomes a diving machine. Darting from its perch, it hovers for a breath-stopping split second to pinpoint its quarry, then dives headlong into the water. If quick enough and accurate enough, it surfaces with its wriggling prey and flies back to its perch, smacking the fish against the perch to stun it before flipping it in the air and swallowing it head first.

Unlike flocking birds that rely on each other's sharp eyes to help find food, the kingfisher works alone. Its diet consists almost entirely of small fish, preferably under 5 inches long, mostly those species that are of little use or even harmful economically as far as human interests are concerned. But when heavy rains cloud waterways, the birds will snatch insects on the wing and scoop frogs, lizards, and snakes off the ground. Like owls and hawks, the kingfisher's internal organs use the nourishing part of its prey and disgorge the indigestible scales and bones as pellets.

Kingfishers are as secretive and protective about their best fishing holes as any human angler. They stoutly defend linear territories along the watercourse and patrol a regular beat, fishing the riffles where small fish are likely to gather. Both males and females defend individual territories, calling out stridently and flying at intruding kingfishers. Dramatic chases ensue when defending a good fishing territory, especially if it's one they plan to hold onto as a winter territory. When another kingfisher approaches its

Brian E Kushner/Shutterstock

PROVIDER: An adult kingfisher carrying a fish for its chicks approaches its nest hole in an earthen bank. A female (below) preens her wing feathers.

chosen territory, the real estate holder will scream, spread its wings, and raise its white eye spots, sending a strong message to the intruder to move on. These are rarely more than dust-ups; the original territory holder usually wins the day.

When breeding season rolls around, the male picks a steep, vertical bank clear of vegetation where the nest cavity will be safe from predators like raccoons, snakes, and weasels. The nesting site is generally close to a pair's fishing territory. If the female approves of the nesting site, she will mate with the male.

The pair take turns using their heavy bills to dig a nesting tunnel into the banks of streams, road cuts, and sand and gravel pits. The tunnel, angling slightly upward, takes from a few days to two weeks to complete and averages 3 to 6 feet long, ending in a chamber 8 to 12 inches across and 6 or 7 inches high. In this cave-like environ, the pair will raise their offspring, taking turns feeding the young. The nestlings are ready to leave the nest in 27 to 29 days and are fed by both parents until they are capable of sustained flight and capturing prey. The fledglings may wander or stay in the general area.

SPECIAL NEEDS OF THE SPECIES

North American Breeding Bird Survey data show an average yearly population decline of almost 2 percent for the Belted Kingfisher due to loss of nesting sites and disturbance during the breeding season. The

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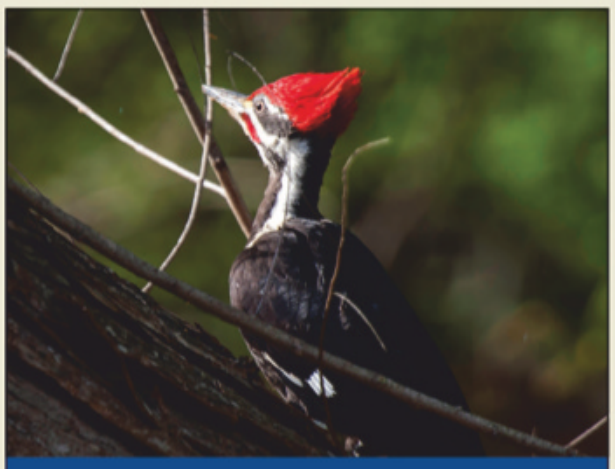

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Finding Belted Kingfisher

Where to look: Rivers, creeks, lakes, bays, marshes, and canals with clear moving water attract this species. Look for places where overhanging branches provide perches that allow an unobstructed view of the water to maximize the kingfisher's fishing success and the availability of vertical earthen banks for nest burrows. Belted Kingfishers spend much of their time perched alone along the edges of waterways, searching for small fish. They are also often seen perched on telephone wires, where they can view the water below.

When to look: During winter and migration, this species may be found in almost any waterside habitat with clear water suitable for fishing. In the breeding season, it is more restricted to areas with suitable dirt banks for nesting holes, which may or may not be near water. The species occurs year-round in most of the lower 48 states and along the coasts of British Columbia and southeast Alaska, although it is sometimes forced to migrate during winter if it can't find open water for fishing.

How to find them: Scan with your naked eye for a white spot in the trees along waterways; the kingfisher's white collar stands out against the backdrop of trees and rocky hillsides. Often heard before it is seen, it issues a signature rattle call when an intruder is in the area. Kingfishers sometimes make long commuting flights over fields and forests, far from water, so be prepared for the occasional surprise flyover wherever you are birding. Their flight when traveling is strong, swift, and graceful, often five or six rapid strokes followed by a long glide on half-closed wings.

availability of suitable nesting sites — earthen banks where birds can excavate their nest — is critical to the distribution of this species. Any events that alter the characteristics of waterways, such as erosion, water pollution, and drought, can have disastrous consequences on kingfisher populations. On the other hand, human activity such as road building and digging gravel pits creates new nesting sites, allowing the expansion of the breeding range.

This year, a pair of kingfishers nested in the creek bank close to where I flushed the one mentioned earlier. I was happy to see them because the county put in a new ball field nearby, and I feared the increased activity would drive them away. The last time I was there, I continued to hear them, so perhaps the kingfishers have learned to tolerate some disturbance as long as they can still hunt for fish and rear their young in safety.

Because Belted Kingfishers eat a diet comprised primarily of fish, they are useful bioindicators of water quality. The fact that they are nesting in our area means that our creeks are healthy. But like many other communities in the East, ours is growing in human population. I can only hope that our waterways will remain clean and able to sustain the small fish that attract this solitary fisher. Despite its mistrust of people, the pluck, tenacity, and uniqueness of this species earn it a high rank on my list of favorite birds.

Jo Ann Abell is a freelance writer from Lexington, Virginia, where she lives on a farm with her husband and three dogs. She wrote about birds that nest near human structures in our July/August 2018 issue. Ms. Abell has also written for Bird Watcher's Digest *and* Virginia Wildlife.

BIG ATTRACTION: As many as 10 upcoming festivals celebrate Sandhill Cranes.

Fall & winter festivals

81 birding events on tap from now through next March

ON THESE PAGES, we present no fewer than 81 birding events scheduled for early September 2019 through late March 2020. One or more of them are bound to fit into your schedule!

We can think of so many reasons to attend festivals. Chief among them, of course, is to see lots of great birds! Beyond that, you'll also be able to attend workshops on bird ID, photography, gardening with native plants, and other topics. You can take part in tours organized by the festival and led by super-knowledgeable birders. And at many festivals, you can shop for binoculars, spotting scopes, art, books, and other gear.

Have fun!

SEPTEMBER

Hummingbird Migration and Nature Celebration
September 6-8
Holly Springs, Mississippi
strawberryplains.audubon.org/hummingbird

Audubon Society of Rhode Island Raptor Weekend
September 7-8
Bristol, Rhode Island
https://asri.org/raptorweekend.html

New York State Birders Conference
September 13-15
Kingston, New York
www.nybirds.org

Puget Sound Bird Fest
September 13-15
Edmonds, Washington
www.pugetsoundbirdfest.org

Chelan Ridge Hawk Migration Festival
September 14
Pateros, Washington
https://hawkwatch.org

Feliciana Hummingbird Celebration
September 14
St. Francisville, Louisiana
http://stfrancisvillefestivals.com/features/feliciana-humming-bird-celebration

Festival of Hawks
September 14-15 and 21-22
Holiday Beach Conservation Area, Ontario
https://essexregionconservation.ca/education-and-events/

HummerBird Celebration
September 19-22
Rockport-Fulton, Texas
www.rockport-fulton.org/HB

Migratory Bird Festival of the North Shore
September 19-22
Tadoussac, Quebec
https://festivalmigrateurs.com

Whiting Forest of Dow Gardens Birding Festival
September 19-21
Midland, Michigan
www.dowgardens.org

Hawk Weekend Festival
September 20-22
Hawk Ridge Bird Observatory, Duluth, Minnesota
www.hawkridge.org

Lower Keys Fall Migration Mania
September 20-22
Key West, Florida
www.keywest.garden/events

Oregon Shorebird Festival
September 20-22
Charleston, Oregon
www.oregonshorebirdfestival.org

Monterey Bay Birding Festival
September 20-22
Watsonville, California
www.montereybaybirding.org

WeatherVideoHD.TV/Shutterstock

Bonney Butte Hawk Migration Festival
September 21
Mt. Hood National Forest, Oregon
https://hawkwatch.org

Migration Fest
September 21
Lehigh Gap Nature Center,
Slatington, Pennsylvania
http://lgnc.org

Celebration of Flight
September 26-28
Corpus Christi, Texas
https://hawkwatch.org

Wings Over Willapa Festival
September 26-29
Long Beach Peninsula, Washington
www.wingsoverwillapa.org

OCTOBER

Alabama Coastal BirdFest
October 2-5
Fairhope, Alabama
https://weeksbay.org/events/alabama-coastal-birdfest/

BirdFest and Bluegrass Celebration
October 4-5
Ridgefield NWR, Ridgefield, Washington
https://ridgefieldfriends.org/

Bridger Raptor Festival
October 4-6
Bozeman, Montana
www.bridgerraptorfest.org

Festival of Flight and Flowers
October 11-13
Lake County, Florida
festivalofflightandflowers.org

Indian River Bird and Nature Art Show
October 11-13
Sebastian, Florida
www.firstrefuge.org

CraneFest
October 12-13
Bellevue, Michigan
www.michiganaudubon.org

Wings Over Water Wildlife Festival
Outer Banks, North Carolina
October 15-20
www.wingsoverwater.org

Florida Birding and Nature Festival
October 17-20
Brandon, Florida
www.floridabirdingandnaturefestival.org

Cape May Fall Birding Festival
Cape May, New Jersey
October 17-20
https://njaudubon.org/nja-events/cape-may-fall-festival/

Reelfoot Lake Pelican Festival
October 18-20
Tiptonville, Tennessee
https://tnstateparks.com/parks/event_details/reelfoot-lake/

Belize Birding Festival
October 19-20
San Ignacio, Belize
http://belizebirdingfestival.com

"Ding" Darling Day
October 20
Sanibel Island, Florida
www.dingdarlingsociety.org/articles/ding-darling-days

Hawai'i Island Festival of Birds
October 24-28
Kona, Hawai'i
http://birdfesthawaii.org

Yellow Rails and Rice Festival
Jennings, Louisiana
October 30-November 3
www.louisianatravel.com

NOVEMBER

Sandhill Crane Festival
November 1-3
Lodi, California
www.cranefestival.com

Fall Flight Festival
November 3, 10, 17, and 24
Las Vegas NWR, Las Vegas, New Mexico
www.fws.gov/refuge/Las_Vegas/

Alaska Bald Eagle Festival
November 6-9
Haines, Alaska
https://baldeagles.org/festival-schedule/

Rio Grande Valley Birding Festival
November 6-10
Harlingen, Texas
www.rgvbf.org

California Swan Festival
November 8-10
Yuba City, California
www.caswanfestival.com

Fraser Valley Bald Eagle Festival
November 16-17
Mission, British Columbia
http://fraservalleybaldeaglefestival.ca

Festival of the Cranes
November 20-23
Bosque del Apache NWR,
Socorro, New Mexico
www.friendsofbosquedelapache.org

Central Valley Birding Symposium
November 21-24
Stockton, California
www.cvbirds.org

DECEMBER

Loess Bluffs Eagle Days
December 7-8
Loess Bluffs NWR, Mound City, Missouri
www.fws.gov/refuge/Loess_Bluffs

Wings Over Water Encore
December 6-8
Outer Banks, North Carolina
www.wingsoverwater.org

Swan Days Festival
Early December
Mattamuskeet NWR,
Swan Quarter, North Carolina
www.swandays.com

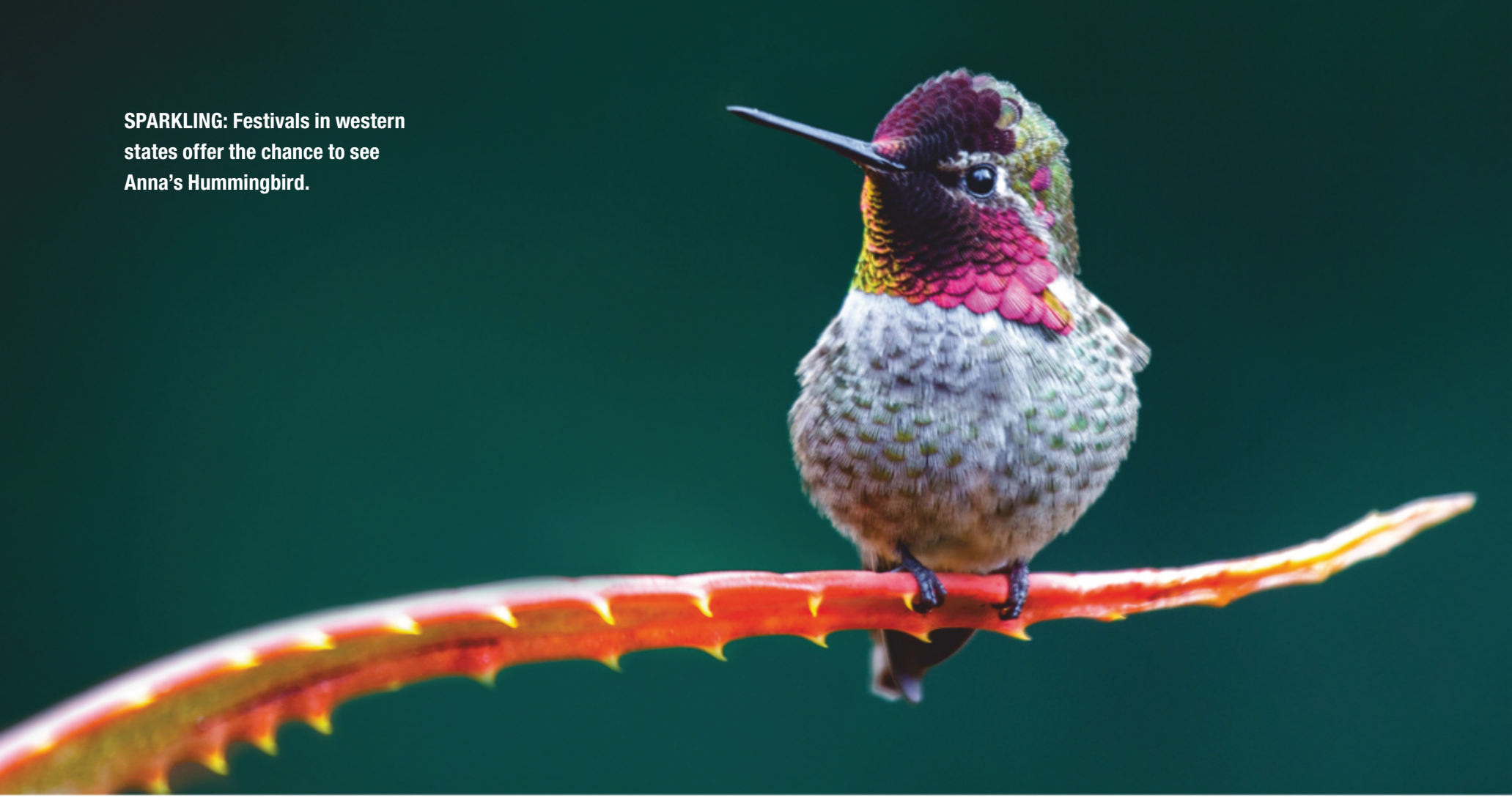
Holiday with the Cranes
December 14-15
Galveston, Texas
www.galvestonnaturetourism.org/holiday-with-the-cranes/

JANUARY

Bald Eagle Days
January 10-12
Rock Island, Illinois
www.qccaexpocenter.com/bald-eagle-event.html

Yuma Bird, Nature & History Festival
January 10-12
Yuma, Arizona
https://yumabirdnaturehistoryfestival.com

Florida Scrub-Jay Festival
January 11
Osprey, Florida
www.facebook.com/scrubjayfest



SPARKLING: Festivals in western states offer the chance to see Anna's Hummingbird.

Festival of the Cranes
January 11-12
Decatur, Alabama
www.friendsofwheelerrefuge.com

Wings over Willcox Birding and Nature Festival
Mid-January
Willcox, Arizona
http://wingsoverwillcox.com

Everglades Birding Festival
January 16-20
Davie, Florida
www.evergladesbirdingfestival.com

North Shore Birding Festival
January 16-20
Apopka, Florida
www.orangeaudubonfl.org/festival/

Morro Bay Winter Bird Festival
January 17-20
Morro Bay, California
http://morrobaybirdfestival.org

Tennessee Sandhill Crane Festival
January 18-19
Birchwood, Tennessee
www.tn.gov/twra/wildlife/birds/sand-hill-crane-festival.html

Snow Goose Festival of the Pacific Flyway
January 22-26
Chico, California
www.snowgoosefestival.org

Space Coast Birding and Wildlife Festival
January 22-27
Titusville, Florida
https://scbwf.org

Wings of Winter Birding Festival
January 24-26
Paris, Tennessee
www.friendstnwr.org/wings-of-winter.html

Winter Wildlife Festival
January 24-26
Virginia Beach, Virginia
www.vbgov.com

FEBRUARY

Galt Winter Bird Festival
Early February
Galt, California
www.ci.galt.ca.us/city-departments/parks-recreation/winter-bird-festival

Laredo Birding Festival
February 5-8
Laredo, Texas
www.laredobirdingfestival.org

SparrowFest
Early February
Balcones Canyonlands NWR,
Marble Falls, Texas
https://friendsofbalcones.org/SparrowFest

High Plains Snow Goose Festival
February 6-9
Lamar, Colorado
https://highplainssnowgoose.com

Birds of a Feather Festival
Early February
Palm Coast, Florida
www.palmcoastgov.com/events/birding-fest

Reelfoot Lake Eagle Festival
February 7-9
Tiptonville, Tennessee
http://reelfoottourism.com

San Francisco Bay Flyway Festival
Early February
San Francisco, California
www.sfbayflywayfestival.com

Winter Wings Festival
February 13-16
Klamath Falls, Oregon
http://winterwingsfest.org

Sax-Zim Bog Winter Bird Festival
February 14-16
Meadowlands, Minnesota
www.saxzimbirdingfestival.com

Fireglo/Shutterstock

Orlando Wetlands Park Festival
February 15
Orlando, Florida
www.cityoforlando.net/wetlands

Whooping Crane Festival
February 20-23
Port Aransas, Texas
www.whoopingcranefestival.org

Eagle Expo
February 21-22
Morgan City, Louisiana
www.cajuncoast.com/event/eagle-expo

California Duck Days
February 22
Yolo Bypass Wildlife Area,
Davis, California
http://yolobasin.org/california-duck-days/

San Diego Bird Festival
February 26-March 1
San Diego, California
https://sandiegoaudubon.org/events/bird-festival

Marsh Madness Sandhill Crane Festival
February 28-29
Linton, Indiana
https://friendsofgoosepond.org

Burrowing Owl Festival
February 29
Cape Coral, Florida
http://ccfriendsofwildlife.org

MARCH

Pelican Island Wildlife Festival
Early March
Riverview Park, Sebastian, Florida
www.firstrefuge.org

Monte Vista Crane Festival
March 6-8
Monte Vista, Colorado
https://mvcranefest.org

International Festival of Owls
Early March
Houston, Minnesota
www.festivalofowls.com

Blackwater Eagle Festival
Mid-March
Blackwater NWR, Maryland
www.friendsofblackwater.org

Eilat Birds Festival
Mid-March
Eilat, Israel
www.birds.org.il

Audubon's Nebraska Crane Festival
March 20-21
Kearney, Nebraska
http://nebraskacranefestival.org

Wings Over Water Northwest Birding Festival
March 20-22
Blaine, Washington
www.wingsoverwaterbirdingfestival.com

Othello Sandhill Crane Festival
March 20-22
Othello, Washington
www.othellosandhillcranefestival.org

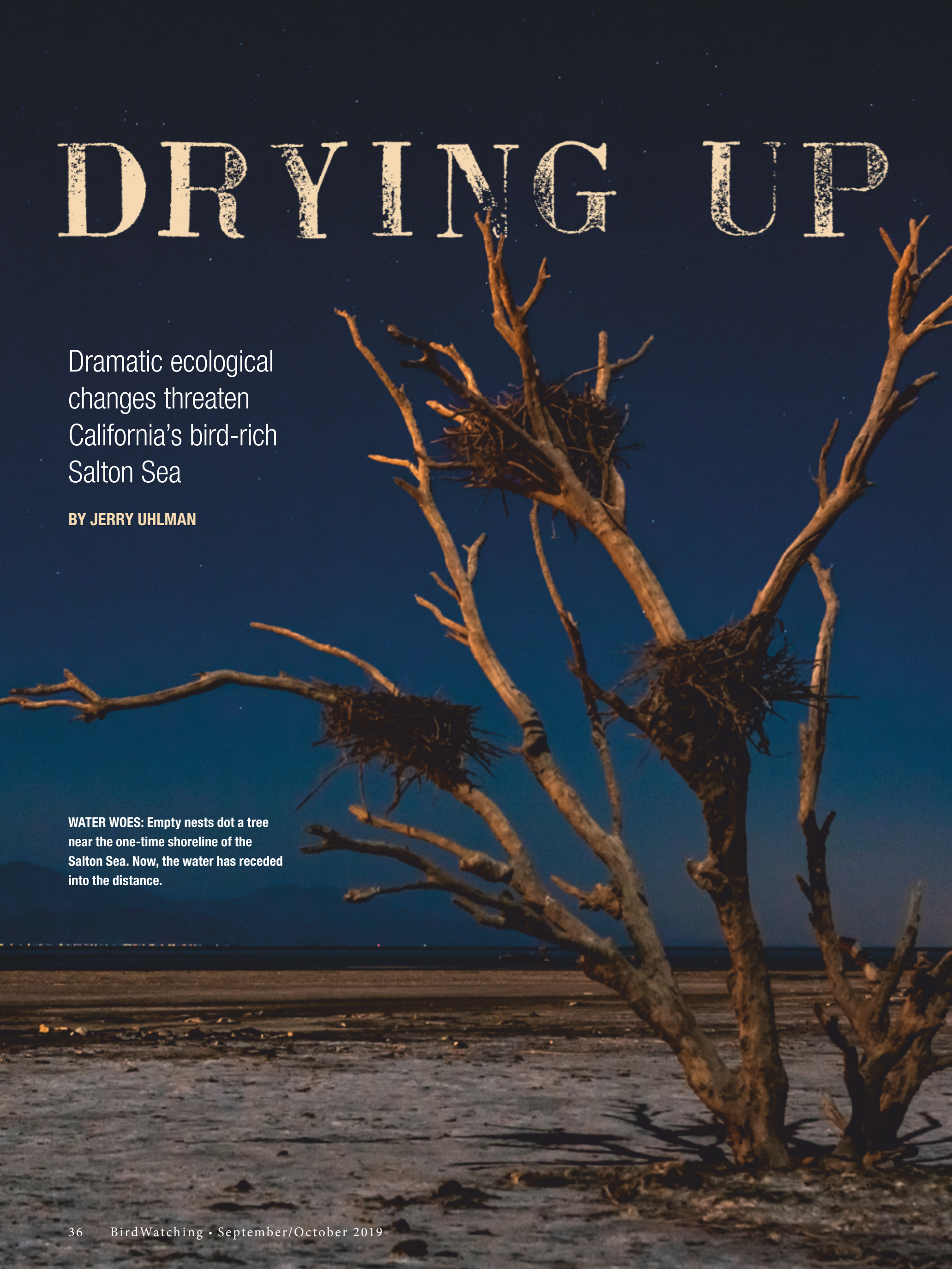
More events

- **A SWIFT NIGHT OUT**
  Second weekends of August and September
  Across North America
  http://www.chimneyswifts.org
- **BIRDS IN ART EXHIBITION**
  September 7-December 1
  Leigh Yawkey Woodson Art Museum, Wausau, Wisconsin
  www.lywam.org
- **WORLD MIGRATORY BIRD DAY**
  October 12
  Across Mexico, Central America, the Caribbean, and elsewhere
  www.migratorybirdday.org
- **PROJECT FEEDERWATCH**
  November through early April
  Across North America
  https://feederwatch.org/
- **120TH CHRISTMAS BIRD COUNT**
  December 14-January 5
  Across North America
  http://christmasbirdcount.org
- **GREAT BACKYARD BIRD COUNT**
  February 14-17
  Backyards everywhere
  http://gbbc.birdcount.org
- **CHAMPIONS OF THE FLYWAY**
  Late March
  Eilat, Israel
  www.champions-of-the-flyway.com

DRYING UP

Dramatic ecological changes threaten California's bird-rich Salton Sea

BY JERRY UHLMAN



WATER WOES: Empty nests dot a tree near the one-time shoreline of the Salton Sea. Now, the water has receded into the distance.

THE SALTON SEA, California's largest lake, is an intriguing migratory stopover that shows a different facade with each season. At least until the last few years. The sea's ecology has declined rapidly since 2016, threatening fish and bird populations. But first, let's look back to better times, to see how we arrived at the situation the sea faces today.

My first visit to the sea, located in the Colorado Desert in the southern part of the Golden State, on a crisp mid-February day in 2010, was an eye-opener. A thousand Eared Grebes bobbed and dove in the water, and large flocks of American White Pelicans skimmed the surface in search of fish. The clear water sparkled in the bright winter sunlight, and the sea looked vibrant and alive. Showing its best side, it seemed pristine. It was difficult to see how this body of water had garnered such a tarnished image over the years. Could it really be so foul?

A later quest for Yellow-footed Gulls in mid-August, however, was a different story. It only took a few moments in the 110-degree heat and 75 percent humidly for sweat to pour down my face. As I scanned the shore near Salton City, the smell of rotting fish strewn about the sand was overpowering. Several gulls lazily picked at the carcasses in the bright sunlight. Yellow-footed Gull and other target birds were easy to find that day. A carload of British birders joined me along the edge of the water and marveled at the rich birdlife on the sea's surface. "Too bad that the sea is dying," one said to his fellow twitchers.

The smell of the summer sea is but one symptom of the many difficulties that have plagued this important migratory site along the Pacific Flyway for many years. The Salton Sea has earned a blemished reputation because of its summertime odors, fish- and bird-kills, and fouled inflows from the New River at its southernmost point. But the sea remains an important stopping point for migratory birds as they follow the inland valley and desert to and from Central and South America.

The sea's importance to migratory birds grew as California's landscape and wetlands rapidly changed into intensely irrigated and fertilized fields, shopping malls, and gated retirement communities. It's estimated that as much as 95 percent of the state's wetlands have been lost to farmland and urban sprawl. What's left in central California is a thin chain of national, state, and private wildlife refuges that stretches along the valley into the desert like a dark green necklace: Gray Lodge, Sacramento, Colusa, Sutter, San Luis, Merced, Kern, and the Salton Sea. These tiny islands in an ocean of agriculture and urban development support more than 550 species of birds, animals, and plants. During the winter, nearly 2 million waterfowl stay on valley preserves along the Pacific Flyway.

The dependence of birdlife on the sea has been demonstrated clearly. Over 400 species of birds are found at the sea, second only to the Texas Gulf Coast in the sheer number of visiting and resident species. The sea and its surrounding fields provide winter habitat for more than 450,000 ducks and 30,000 Ross's and Snow Geese. Roughly 30 percent of American White Pelican and 50 percent of California Brown Pelican populations were once found at the sea, and the wintering population of gulls was the largest at any inland site in North America.

Gulls, shorebirds, and waterfowl found the ecosystem of the sea irresistible because of its huge supply of fish and the unique gruel of algae, grasses, and aquatic worms that sustain the fishery. The sea's fishery has been called one of the most productive in the world, one that promotes the growth of several introduced fish species: tilapia, gulf croaker, orangemouth corvina, and sargo. A sport-fishing industry around the sea benignly coexisted with the birds.

The sea is truly a unique ecosystem in the southwest desert, one that is a blessing and a curse to its inhabitants. It both nourishes and puts them at risk, and attention-grabbing headlines have publicized numerous bird- and fish-kills over the years. While the fish-kills have increased during the last decade, bird deaths have received more attention.

In 1992, 150,000 Eared Grebes and Ruddy Ducks were found dead along the shoreline. The U.S. Fish and Wildlife Service was about to take Brown Pelicans off the endangered species list until 1,400 died in 1996, nearly one-third of California's population. The species again suffered the loss of 413 birds in 2000.

In 2018, an avian cholera outbreak killed 6,000 Ruddy Ducks, as well as a large number of Black-necked Stilts and gulls, and this past winter another outbreak claimed Ruddy Ducks, Northern Shovelers, stilts, and gulls. In most cases, the cause of death appeared to have been viral or bacterial infection. Bird and fish populations are dependent on the relative health of this bowl filled with a mix of salt, decomposing vegetation, and agricultural runoff.

NO OUTLET

The Salton Sea, lying along the western edge of San Andreas Fault, is essentially a basin with no outlet. Its size and shape have changed as the Colorado River's course was altered by silt and storms over the eons. At times, it has been directly fed by the Colorado or composed the northernmost reach of the Gulf of California. Early native cultures thrived and farmed the seashores.

The sea we know today was created in 1905 when poorly constructed irrigation canal gates burst, and water gushed for one and a half years onto the desert. A dike built by railroad cars dumping huge boulders onto the rushing waters finally stopped the

Kevin Key/Shutterstock

GOLDEN LIGHT: An American Avocet wades in the shallows. The shorebird species has found favorable conditions at the sea in recent years.

RELIABLE: The Salton Sea is the only place in the U.S. where Yellow-footed Gull is regularly seen. The species primarily lives along Mexico's Gulf of California.

flooding, forming a lake roughly 35 miles long and 15 miles wide. Afterward, settlement in the area was spurred by commercial salt excavation and the promise of rich farmland.

Over the years, the Salton Sea has flooded and receded a number of times, to the detriment of small fishing and recreational communities that sprung up and remain along the shoreline. Today's sea is 227 feet below sea level, covers 380 square miles, and has an average depth of 31 feet.

The sea's watershed covers nearly 7,500 miles and is fed by three small rivers: the Whitewater at the northern end, and the Alamo and New rivers at the southern end. All three rivers, the principal source of water replacement to the sea, carry agricultural and storm runoff.

It's commonly thought that the sea's basin is the repository of not only agricultural runoff with fertilizers and pesticides but also raw sewage. The New River has been singled out as a primary offender, with raw waste originating in the municipality of Mexicali, Mexico, dumped into the river. Some estimates place the dumping as high as 20 million gallons of sewage daily because of equipment breakdowns at the city's treatment plant, and in past years the U.S.

A STATE-RUN RESTORATION PLAN TO CREATE ALMOST 30,000 ACRES OF WILDLIFE HABITAT AND CONTROL DUST IS BEHIND SCHEDULE

government has given the Mexicali municipality financial aid to correct the situation.

But the importance of the New River's pollutant role may be overstated. It accounts for only 30 percent of the Salton Sea's water, and routine tests have found that water traveling from Mexicali to the sea has been diluted and naturally treated, leaving it with a similar quality to its sister tributary, the Alamo River, used to irrigate Imperial and Coachella Valley groves and vegetable fields. According to the Salton Sea Authority, an oversight coalition of municipal governments and water districts, routine water tests also confirm that there is no significant level of pesticides in the sea.

Greater culprits plague the sea than the New River. Salinity and nutrient saturation threaten the sea's viability and the survival of the millions of fish and birds that it feeds.

TOO MUCH SALT

The saltiness of the sea directly affects aquatic organisms and fish upon which the many species of waterfowl and shorebirds rely on as a food source. The Salton Sea is getting saltier by the day. The soil basin of the sea has a heavy salt content that leaches directly into water and into agricultural drainage fluids before entering the sea. The Colorado River, a naturally salty water source, is used for irrigation and nutrients applied to agricultural fields as fertilizers contribute more salt to the sea.

The Salton Sea receives nearly 4 million tons of salt each year, and it's now twice as salty as the Pacific Ocean.

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Bird numbers shrinking

From the 1980s to the 2000s, bird diversity and numbers at the Salton Sea were off the charts. The sea and the surrounding region hosted:

- About half of the Pacific Flyway population of Ruddy Ducks.
- An estimated 25-90% of North America's population of Eared Grebes (1 to 3 million birds).
- About 30% of the continent's American White Pelicans — as many as 20,000 birds.
- The largest interior wintering population of Western Snowy Plovers.
- The second-largest breeding colony of Double-crested Cormorants in North America as well as colonies of other large waders.
- Threatened or Endangered populations of Yuma Ridgway's Rail and California Black Rail.
- And so on.

In 2013, however, things began to change. The cormorants, which had as many as 10,000 nests on Mullet Island, near the sea's southeastern shore, abandoned the colony that year. Water levels receded, opening a land bridge to the island, which allowed mammalian predators to reach the nests.

Since 2016, according to an April 2019 Audubon California report about the sea's birdlife, several species have experienced steep declines.

Audubon's Waterbird Survey counted only 17 American White Pelicans and 372 Brown Pelicans during the winter of 2017-18. The decline is largely the result of the sea's increased salinity, which is killing off the tilapia upon which the birds feed.

"For a community that once held annual Pelican Days Birding Festivals, the decline of these great birds is certainly disheartening," says Andrea Jones, Audubon California's director of bird conservation and principal author of the new report.

From 2014-2017, Eared Grebe numbers fell 63%, and in early 2019, the number of grebes fluctuated from tens of thousands to nearly zero, depending on prey availability.

The report also notes significant increases in the past two years for shorebirds, such as American Avocet and Western Sandpiper, and waterfowl, such as Ruddy Duck. These species are taking advantage of large numbers of insects being produced as the receding waterline exposes wet shoreline.

Overall avian diversity, the report says, is down 10% in the past two years. However, as the shoreline stabilizes in coming years, the sea's wet edges dry up, and the Salton Sea becomes more saline, fewer hospitable habitat conditions will persist. The sea saw a potential preview of that this past January, when about 6,000 Ruddy Ducks died from avian cholera, a contagious disease that affects waterfowl in crowded and stressed conditions.

"Some birds will diminish and other birds will prosper," says Jones, "but the overall number of birds at the sea is shrinking."

Because the sea has no natural outlet, the salt stays in the lake and increases year after year. The amount of water that evaporates and the quantity that flows into the sea are nearly equal. In effect, evaporation in the hot desert concentrates the salt in the water, and the saline level continues to build up dramatically.

High saline content directly affects aquatic life. While individual fish species have varying tolerances for the salt, the steadily increasing rate of salinity will eventually kill the fishery. High salinity adversely affects the reproductive process and leads to large fish die-offs over time. Researchers have predicted that the Salton Sea will be so salty in the next decade that its biological systems will fail.

Nutrients in the seawater may be an even greater problem. While agriculture is the basis of the local economy, fertilizers applied to surrounding fields become part of the irrigation runoff and make their way to the sea. Adding to the problem, municipal treatment plant outflows contain large quantities of phosphates that add to the nutrient buildup.

GROUND DWELLER: The Imperial Valley south of the sea is home to about 70% of California's breeding Burrowing Owls, or about 4,000 pairs.

The various nutrients flowing into the sea combine with algae already present in the seawater and stimulate rapid algae growth, inevitably resulting in colorful and pungent summertime cycles of blooms and die-offs across the body of water. The nutrients also may promote the growth of bacteria and viruses that trigger both fish- and bird-kills. While salt is considered a serious threat to the sea, it's the flourishing nutrient load that may cause a system collapse before salt concentrations.

A further complication is the threat of toxic dust storms. As the sea waters recede, the sediment on the bottom is left to be whipped around by hot, dry winds. The result would be health hazards for local residents and coastal cities, significant threats to nearby fruit and vegetable farms, and reduced habitat quality for wildlife.

ADVOCACY AND SOLUTIONS

Over the years, advocacy groups have worked to save the Salton Sea. None has

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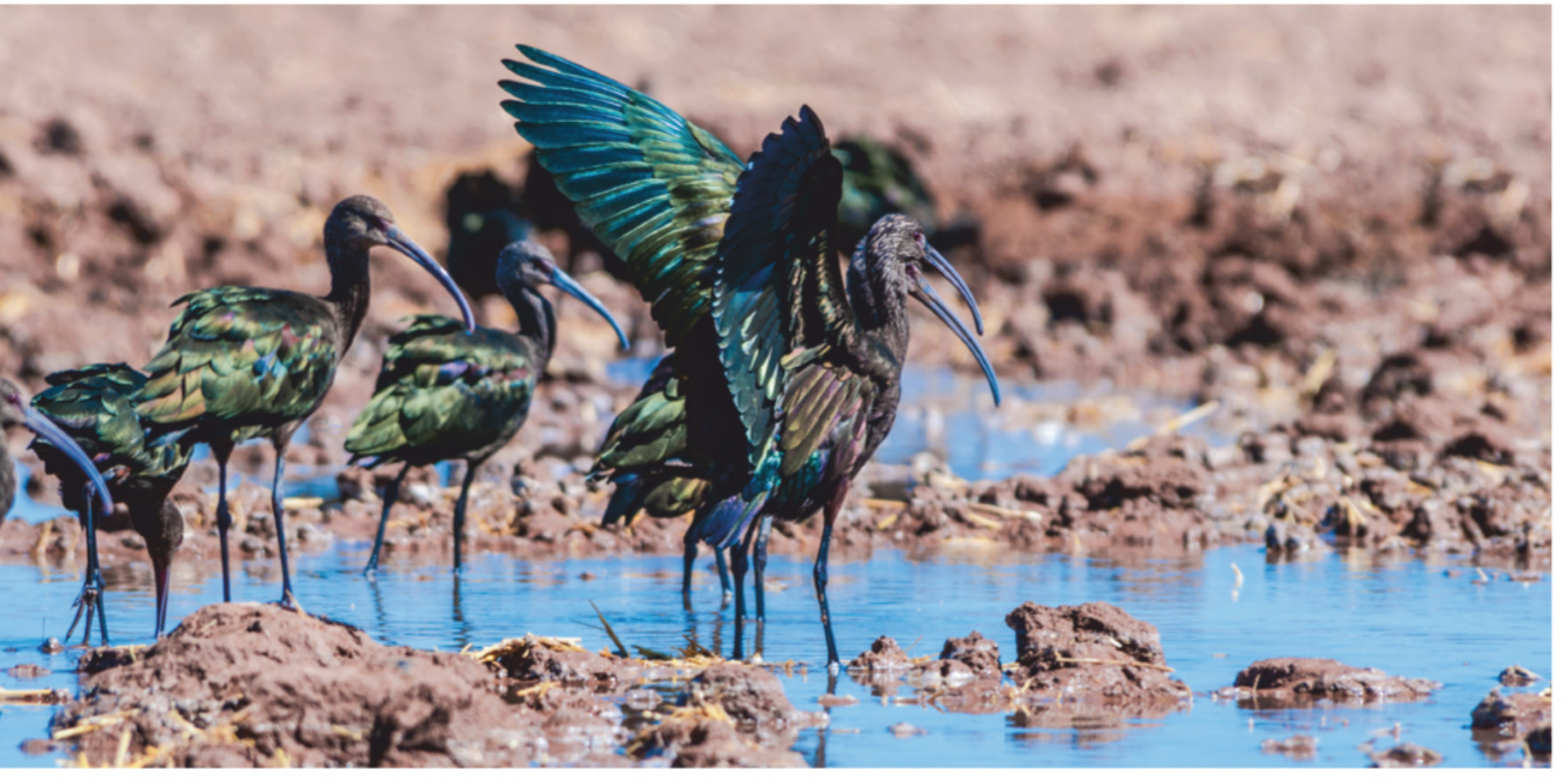
championed this effort as actively and persuasively as Audubon California. It and several other environmental groups built a scientific database that clearly verified the sea's importance to a large diversity of birdlife. Their research demonstrated that many species have utilized the sea, often in staggering numbers: tens of thousands of American White Pelicans during summertime, many thousands of Black Terns, and huge concentrations of Eared, Clark's, and Western Grebes during winter.

Because of their critical resource to birdlife, the Salton Sea and the adjacent Imperial Valley to the south are designated as globally Important Bird Areas. In 2018, Audubon California's advocacy efforts with state legislators led to landmark funding to put sea-saving strategies into action. For the first time, the state committed substantial funding, about $280 million, to habitat restoration and dust mitigation.

While several restoration projects to create almost 30,000 acres of wildlife habitat and control dust are identified in the state's 10-year restoration plan, those projects are already behind schedule. A recent report says only a few projects have been initiated so far, and in fact, Audubon says, about "60,000 acres of a mosaic of habitats are needed" in the region. (For more on the report, see sidebar, page 40.)

Discussions of ways to reverse the downward spiral and lower the salinity and nutrient buildup have gone on for years. Several novel — and some say fanciful — approaches have been suggested. One idea is to construct large pipelines with pumping stations between the sea and the Pacific Ocean and Gulf of California, through which water would be exchanged to lower the sea's salinity and nutrients.

Another proposal is to dig a canal, or perhaps two canals, from the sea to the Gulf of California. At a possible price tag of several billion dollars, the plan would include a large ditch that would be navigable by ocean-going vessels, thus stimulating commerce with a long-range objective of recouping costs and revitalizing the area. Because of engineering uncertainties, high costs, and land acquisition difficulties that would be



CHANGING BIRDLIFE: American White Pelicans once numbered in the thousands at the Salton Sea, but in recent winters, only handfuls have been counted. Other species, such as White-faced Ibis, remain in large numbers in the fields to the north and south of the sea.

Nick Pecker/Shutterstock (2)

protracted and potentially litigious, both alternatives have been largely dismissed.

The Salton Sea Authority and Salton Sea Restoration Project have spearheaded the quest for solutions by bringing water districts, local governments, citizens groups, and scientists together to plan the sea's reclamation. A palliative focus is now directed toward salinity reduction. Over the years, several scientific studies have recommended the construction of a large impoundment or lake within the sea, surrounded by dikes. While relatively fresh water flows into the sea, seawater would pass into the impoundment, where it would evaporate. The goal of this passive process would be to lower the sea's salinity and concentrate the salt within the diked impoundment. Removal of the salt is yet another problem seeking a solution.

The Salton Sea Authority and U.S. Bureau of Reclamation also recommended several alternatives, using evaporation ponds and "enhanced evaporation" spraying equipment to accelerate removal of salt. Enhanced evaporation technology sprays brine into the air, which speeds the evaporation process. Several pilot projects have been conducted using these methods, with plans for implementation if and when funds are available. Another proposal would import water from the Gulf of California, yet without a viable strategy.

After years of research, discussion, planning, and foot-dragging, the state is working to address the problems. Has it waited too long to begin?

In the end, the excessive salt and nutrients may not be the determining factors of survival for the sea. Continued urban development and sprawl in southern California may deliver the final coup de grace. Growing communities nearby may covet the inflow to the sea, and it may be only a matter of time before thirsty consumers demand the diversion of a precious commodity upon which the sea depends.

The Salton Sea, home to the Endangered Yuma Ridgway's Rail, California Brown Pelican, and American Avocet, needs immediate human intervention and protection for its survival. Waders, waterfowl, and shorebirds rely on its waters and shoreline during spring and fall migration, and its preservation has become even more important because of California's vanishing wetlands.

No matter which season you visit and whether the water is crystal clear or crimson, it's immediately obvious that an enormous number of birds need this unique ecosystem. A belated reclamation effort is finally a reality, but the sea's fate now depends on wisdom and foresight prevailing over apathy and self-interest.

Jerry Uhlman is a writer and photographer who writes birding and travel articles for nature magazines and newspapers. He wrote about birding hotspots in Ontario in our March/April 2019 issue.

Learn more

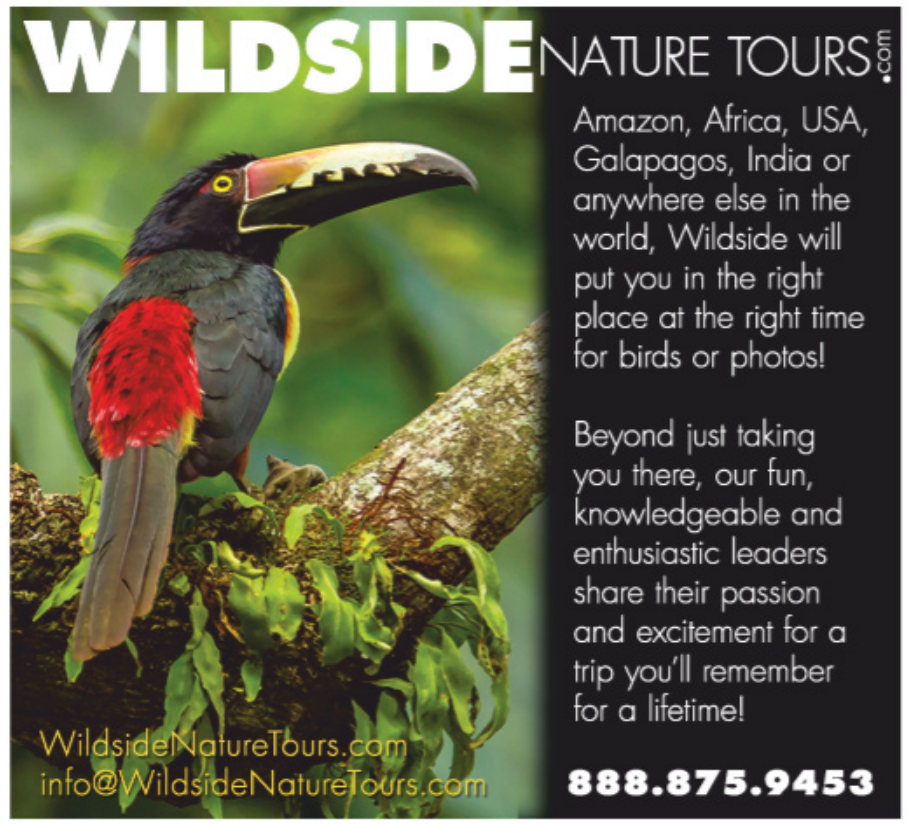
Read about how Audubon California is advocating for the sea. *https://ca.audubon.org/conservation/conservation/important-bird-areas/salton-sea*

Audubon California's online map for birding the Salton Sea. *https://ca.audubon.org/node/26691*

"SOS: The Salton Sea Walk" is a 2017 documentary, available on Amazon Prime, about one man's walk around the entire sea to prevent an ecological disaster. *https://sosthewalk.com*

Read our 2007 article "Hotspots by the Sea" by birding guide Henry Detwiler. *www.birdwatchingdaily.com/locations-travel/featured-destinations/hotspots-sea*

Birders on the Go



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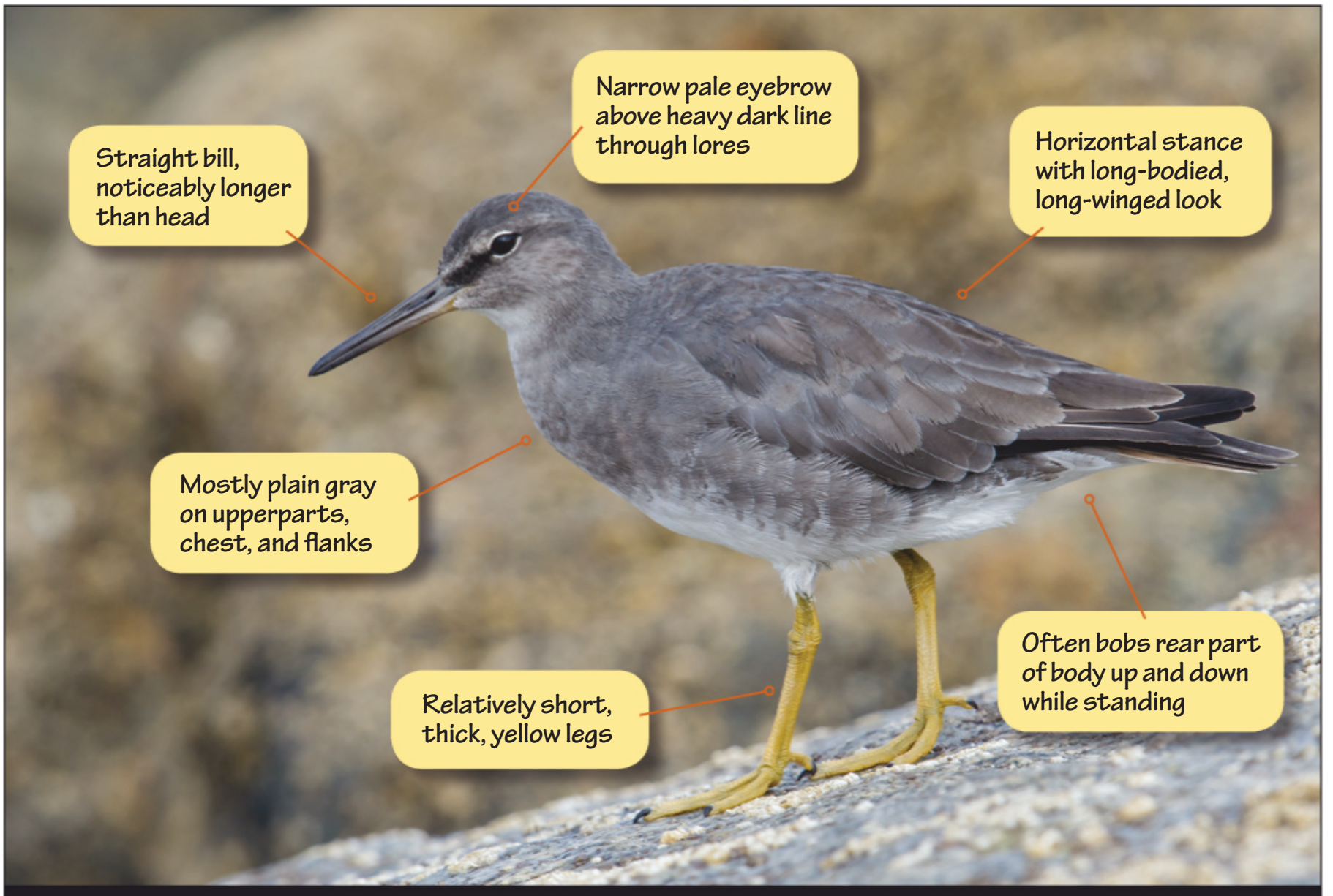
Wandering Tattler



Wandering Tattler, non-breeding adult **August in Ventura County, California**

What to look for

Size and shape. Medium-sized sandpiper with fairly short legs and thin, straight bill.

Face pattern. Thick dark line through the lores (from bill to eye) with a poorly defined pale supraloral line (short eyebrow) above it.

Pattern of underparts. Breeding adult heavily barred gray and white. Juvenile and winter adult with gray chest and flanks, white belly.

Habitat and behavior. Favors rocky shorelines at ocean's edge for most of year. Walks actively on rocks, bobbing hindquarters up and down.

Flight pattern. Entirely gray above, with no white on wings, rump, or tail, unlike most shorebirds.

The name of the Wandering Tattler sounds fanciful and fictional, but it's actually a fitting title. "Wandering" is no exaggeration. The coastal wintering range of this sandpiper spans the Pacific, from California and Ecuador west to Australia, and just about every archipelago and island in between: Hawaii, Galapagos, Polynesia, Samoa, Fiji, and more. "Tattler" is appropriate, too: When this modest-looking bird takes flight from a wave-washed rock, its loud, ringing trill ensures that everyone will know about it.

In terms of habitat and surroundings, the Wandering Tattler leads a double life. Most birders see it in the non-breeding season, along the coast on rocky shorelines. For breeding, however, it goes to the interior of Alaska and parts of northwestern Canada and extreme eastern Siberia, nesting near streams in the mountains. The first nest was not

discovered until 1923, in the area that's now Denali National Park in central Alaska, and its breeding behavior still has not been studied thoroughly.

Curiously, this change of scene — rocky shores in winter, Alaska mountains in summer — is also practiced by another sandpiper, the Surfbird, although it clings to the coasts of the Americas instead of crossing to the far side of the Pacific.

For North American birders, the Wandering Tattler is essentially a Pacific Coast specialty. A handful of strays have appeared east to the Texas coast, Hudson Bay, the Great Lakes, and even Massachusetts, so it's a species that every birder should keep in mind. Along the California coast, the bird is present for most of the year, with higher numbers in late April and early May and again from late July through September. Only small numbers stay through winter, and very few are found in early summer.

Within this coastal range, the Wandering Tattler is seldom seen foraging on mudflats or sandy beaches because it's strongly tied to rocky shorelines. It's typical to see one moving rapidly over wet boulders near the breaking waves, picking at invertebrates and sometimes chasing small crabs. As it moves, the tattler "teeters," bobbing its hindquarters or its whole body up and down, similar to the actions of a Spotted Sandpiper. Often the tattler forages in the same general areas as flocks of Black Turnstones and Surfbirds, but it doesn't join the flocks. It keeps to itself, and if the birds are flushed, the tattler will fly away separately, giving a loud, ringing cry.

Compared to other "rockpipers" on the Pacific Coast, the tattler is distinctly longer-billed than the turnstones or Surfbird, smoother gray above than the Rock Sandpiper, and more active in its foraging than any of these birds. Its behavior makes it superficially most similar to Spotted Sandpiper, which also may forage along rocky shorelines in the non-breeding season. See the captions accompanying Brian Small's fine photos in this column for pointers on how to identify Wandering Tattlers in all plumages.

Kenn Kaufman (www.kaufmanfieldguides.com) has written several books on birds and nature. Brian E. Small (www.briansmallphoto.com) is a nature photographer whose photos illustrate many books.

Wandering Tattler, breeding adult May in Los Angeles County, California

Among shorebirds occurring commonly in North America, the pattern of the Wandering Tattler in breeding plumage is unique. Nothing else comes close to its pattern of heavily barred underparts and completely smooth, unmarked gray upperparts. Even with this distinctive pattern, however, the shape of the bird is a major field mark, as with all shorebirds. Notice the overall horizontal appearance, with relatively long wings and short stocky legs, and the straight bill, distinctly longer than the head. It might seem like an easy ID. But especially in Alaska, birders need to be aware of a close relative, Gray-tailed Tattler, which wanders in from Asia; it's discussed in the sidebar on the next page.

Wandering Tattler, juvenile September in Los Angeles County, California

As with most other sandpipers, juvenile Wandering Tattlers in late summer and fall differ from adults in the appearance of the upperparts. Their cleaner look results partly from the fact that the major scapular and covert feathers are more uniform in shape, and slightly smaller than those of adults. In addition, the juvenile tattler has a pattern of fine pale spots along the edges and tips of most of the coverts, as well as pale spots on the edges of the tertials, while those feathers are simply plain gray on adults. At a distance, this subtle pattern is hard to see, and the juvenile simply looks plain and gray, well camouflaged against the usual colors of coastal rocks.

Spotted Sandpiper, non-breeding adult January in San Diego Cty, California

In the field, the main ID contender with Wandering Tattler is the Spotted Sandpiper in winter plumage. Its walking behavior — bobbing the rear part of the body up and down — is surprisingly similar. Both birds have mostly plain upperparts, fairly short yellow legs, and a similar face pattern. The overall color tone differs: The sandpiper looks browner, and the tattler wears grayer tones, but this can be hard to judge in the harsh light along an open shoreline. On Spotted Sandpiper, a white mark extending up in front of the wing is usually a good field mark. In flight, it shows a conspicuous white wing stripe, a clear distinction from the tattler's unmarked gray wings.

Wandering Tattler, non-breeding adult August in Ventura County, California

Its total breeding range is small, and its population is thought to be fewer than 25,000, but the wintering range of the Wandering Tattler is very thinly spread across edges and islands of the vast Pacific Ocean. Most sandpipers of rocky shorelines (including Black Turnstone, Ruddy Turnstone, Surfbird, and Rock Sandpiper) are regularly seen in flocks, but Wandering Tattlers are usually seen singly. A lone gray bird foraging among gray rocks is easy to overlook. Often, we notice the tattler first when it takes flight, with loud "tattling" calls. Its flight pattern — plain gray above, with no white on the wings, rump, or tail — is a good distinction from other shorebirds that share the same habitat.

The other tattler

The Wandering Tattler might seem unique among North American sandpipers, but it has a close relative, Gray-tailed Tattler. It breeds in Siberia and regularly shows up as a migrant on western Alaskan islands, sometimes on the mainland, and very rarely south of Alaska.

Gray-tailed and Wandering Tattlers are similar in all plumages, not always safely identifiable by sight. Gray-tailed tends to be paler gray above. In breeding plumage, the barring on its underparts is less extensive, leaving part of the belly white, but a Wandering in molt can look similar. The juvenile Gray-tailed has slightly larger white spots on the edges of the scapulars, coverts, and tertials. Winter plumaged birds are usually whiter on the flanks, not strongly washed with gray as in Wandering Tattler. In all plumages, the pale eyebrow on Gray-tailed tends to be wider.

In addition, Gray-tailed Tattler has less affinity for rocky places and is more likely to forage on open mudflats or sandy areas. Perhaps reflecting this difference, Wandering Tattler has subtly thicker legs, which could be an adaptation for clambering over rough surfaces.

To identify a tattler out of range, though, it would be important to hear the voice. Wandering Tattler gives a rippling series of clear, piping notes in rapid succession, *tu-tu-tu-tu-tu*. The call of the Gray-tailed is a rising, whistled *too-weeap*, an utterly different sound, belying the similar appearance of the species.

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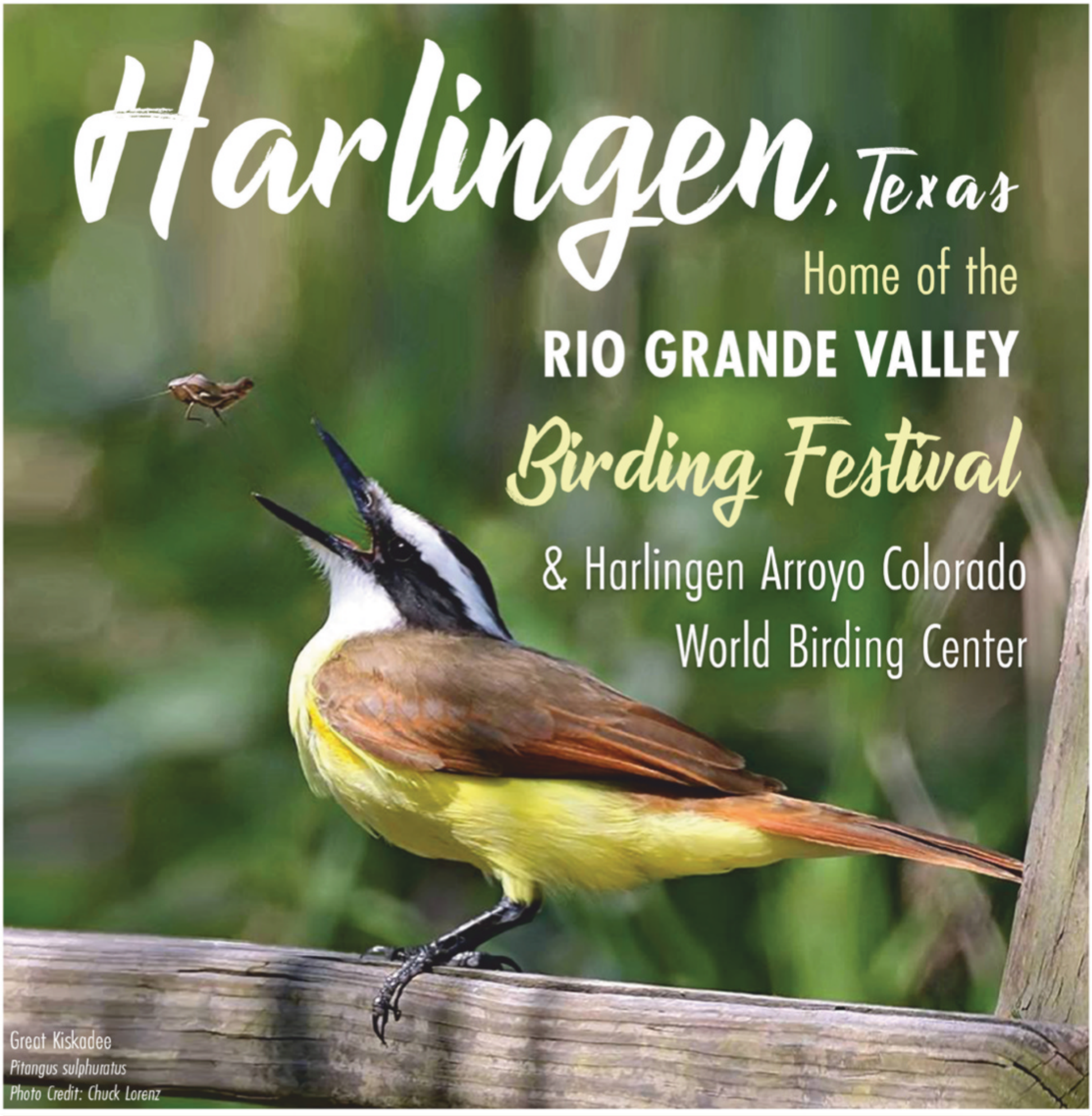

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WATCH ME: A Chestnut-sided Warbler in fall plumage peeks from a shrub in the author's yard.

Paying attention

Carefully check your trees and shrubs to spot birds that can be easy to miss

The most important rule of attracting birds to backyard habitat is to provide as much locally native vegetation, especially fruit-bearing trees and shrubs, as possible. This brings in many birds that don't visit feeders, including species that eat fruit and those that feed on the insects attracted to it.

Once you've attracted those birds, how likely are you to actually notice them? Some birdbaths, especially those with bubbling water set close to the ground, lure in a variety of birds that never come to feeders, and birdbaths can be as easy to monitor as feeders.

But many of the birds that visit our yards stay hidden in vegetation. Getting into the habit of carefully looking through trees and shrubs will help you build your yard list and give you splendid closeup views of birds you'd otherwise overlook. I've taken my best photos of many vireos, thrushes, and warblers during past Septembers and Octobers while sitting on my front porch near a mountain ash or walking along the back of my yard where dogwoods and other shrubs are covered with fruits.

Migrants passing through spend their days quietly replenishing their body fat and resting. Sometimes they make soft call notes, and one or two Red-eyed Vireos may break out in song now and then, but don't count on your ears to detect interesting birds in your yard in autumn. The best hint that they might be there is when a chickadee flock arrives at the feeders. Many

Don't count on your ears to detect interesting birds in your yard in autumn.

songbirds passing through unfamiliar areas gravitate to inclusive chickadee flocks to get the inside scoop on where to find food, water, and safe resting spots. Flycatchers and most warblers won't come to the feeders with the chickadees. They lurk in the vegetation, where some will remain even after the chickadees move on.

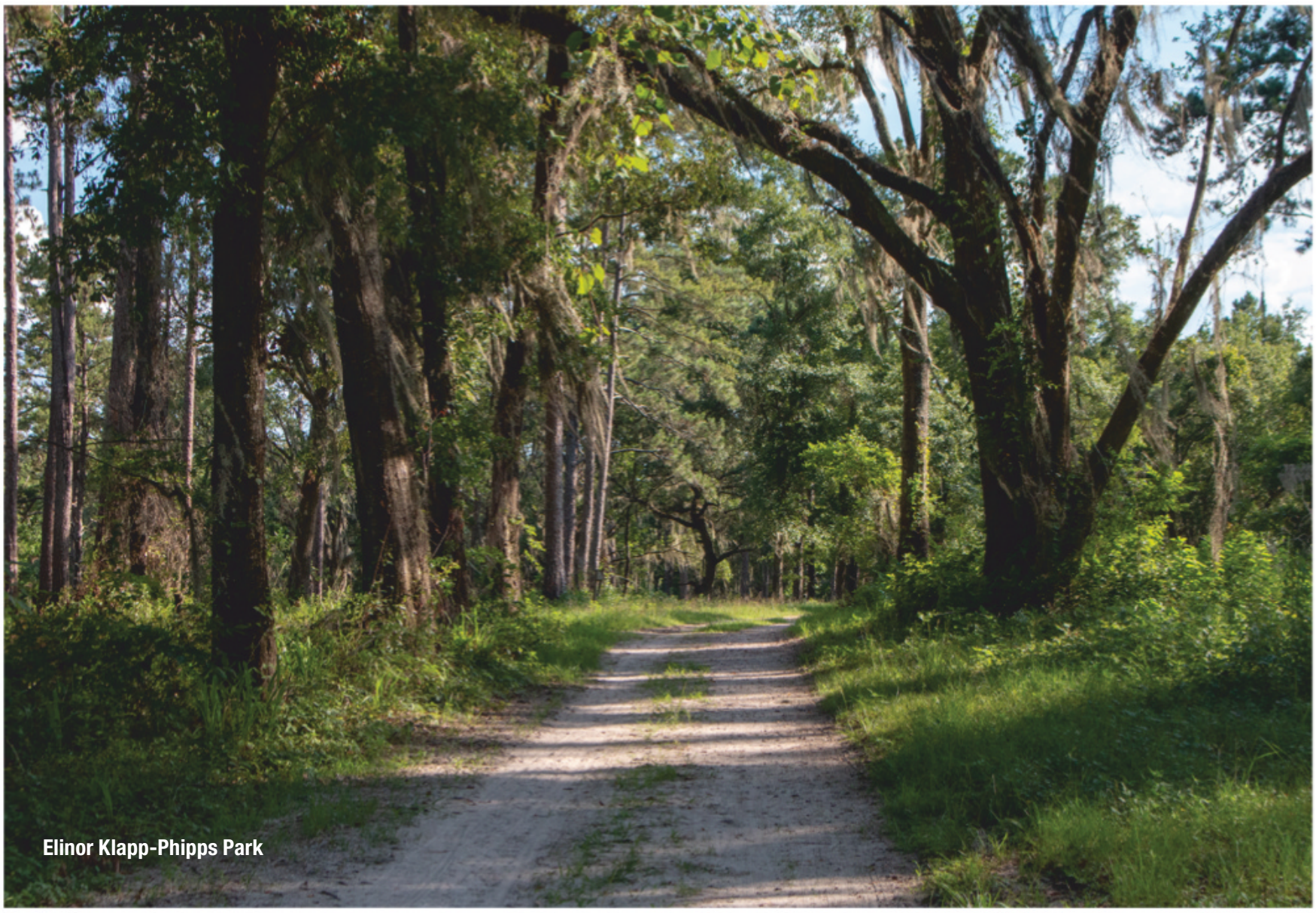
If you have a row or clump of good trees and shrubs, walk along the edges slowly and quietly, listening for soft calls but mostly looking for movement within the branches. When you find a small bird, track it. Keeping focused on one bird for as long as possible can give you photos of it from many different angles, doing many different things, and give you lots of insights about its behavior that will improve your birding skills. Fall warblers in some plumages can be tricky to identify, but photos allow you the leisure to study them.

Paying attention, you may notice more regular action in some areas of your yard than others. If a tree has a few dead twigs, scan them regularly — hummingbirds use those tiny openings to rest, and flycatchers often hunt from them. Larger dead branches rising up above healthy branches provide perches for flycatching Cedar Waxwings. The more familiar you are with each of your own trees and shrubs, the more birds you'll find in them, and the easier it will be to see each subsequent one. Autumn is the season of richness when we reap what we have sown, if we pay attention.

Laura Erickson, the 2014 recipient of the American Birding Association's highest honor, the Roger Tory Peterson Award, has written 11 books about birds and hosts the long-running radio program and podcast "For the Birds."

Laura Erickson

hotspotsnearyou



Elinor Klapp-Phipps Park

Jeff O'Connell

HOTSPOTS 293-296

no. 293 elinor klapp-phipps park
tallahassee, florida

no. 294 ocean city inlet
worcester county, maryland

no. 295 lake yosemite regional park
merced county, california

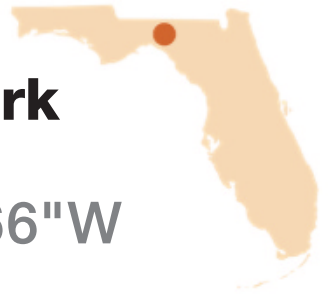
no. 296 back bay of cape may
cape may, new jersey

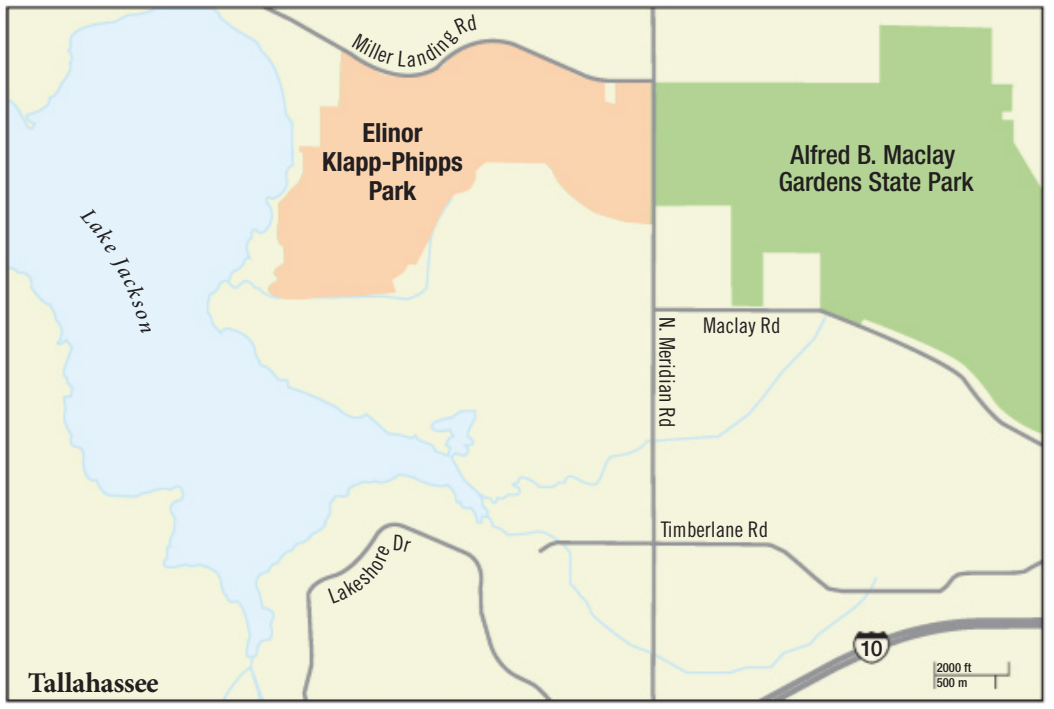
IN THE LATE 1920s, a wealthy American couple named John and Elinor Phipps spent their honeymoon in Kenya. They loved the country and wanted to stay but eventually returned home to the U.S. In 1937, they moved to Tallahassee, Florida, and bought property north of the city that, according to *Tallahassee Magazine* reminded them of Kenya, "with its rolling countryside, broom sage, and giant live oaks." The Phippses lived on the land throughout their lives and were also active conservationists, working for land preservation, sea turtle conservation, and other causes. In 1992, their son Colin sold more than 600 acres of their estate to the city of Tallahassee and the Northwest Florida Water Management District to create Elinor Klapp-Phipps Park. Today it's a great place to bird, as you can read on the next page. — *Matt Mendenhall*

elinor klapp-phipps park

tallahassee, florida

30°32'9.99"N 84°17'49.66"W





Elinor Klapp-Phipps Park covers more than 670 acres east of Lake Jackson. From I-10, take FL-61N/Thomasville Rd. half a mile to Timberlane Rd. Turn left on Timberlane, and after 1.7 miles, turn right on N. Meridian Rd. Go 2.1 miles, turn left on Miler Landing Rd., and turn into one of three parking areas for the park.

Elinor Klapp-Phipps Park is one of my favorite birding destinations in north Florida. It offers 10 miles of shared-use trails, which wind through a variety of interesting habitats. My typical loop takes me through restored longleaf pine flatwoods, where Bachman's Sparrows and Summer Tanagers can be heard singing in spring, down a gentle slope past expansive live oaks, and into lush deciduous forests traversed by several small creeks wending their way to the shore of Lake Jackson, one of the biggest lakes in the area. I've spent many cool fall mornings hiking the trails along these creeks in search of migrant songbirds, which can be found here in good numbers. No fewer than 33 species of warbler have been observed here, including annual occurrences of Cerulean, Golden-winged, Canada, and Bay-breasted.

An expansive field at the shore of Lake Jackson can be good for sparrows in winter and is home to many Blue Grosbeaks and Indigo Buntings spring through fall. Limpkins can occasionally be heard calling from the shoreline, and Sedge Wrens winter in the reeds by the water's edge. On a typical two-hour hike in winter, I'll find between 40 and 50 species at the park. Butterfly viewing is also good here in summer and fall. — *Jeff O'Connell*

Jeff O'Connell is the field trip leader for the Apalachee Audubon Society.

sites nearby

Tall Timbers Research Station
14 miles north of park on Henry Beadel Rd. Great for woodpeckers, including Red-cockaded and Red-headed. White-breasted and Brown-headed Nuthatches common. Views from a window of feeders and a pond. Good for sparrows in winter.

Alfred B. Maclay Gardens
Across Meridian Rd. from park. Picturesque gardens, plenty of good hiking trails, and a lakeside picnic area.

AT A GLANCE

HABITAT
Pine flatwoods, deciduous forest, lakeshore.

TERRAIN
Wide and mostly level dirt and grass trails. Some gradual inclines. Several good loop trails between 1 and 2.5 miles long.

BIRDS
Over 190 species. Northern Bobwhite, Red-shouldered Hawk, Pileated Woodpecker, Barred and Great Horned Owls, Eastern Wood-Pewee, Acadian Flycatcher, Great Crested Flycatcher, White-eyed, Yellow-throated, and Red-eyed Vireos, Carolina Chickadee, Tufted Titmouse, Brown-headed Nuthatch, Carolina Wren, Ruby-crowned Kinglet, Common Yellowthroat, Pine, Yellow-throated, Palm, and Yellow-rumped Warblers, White-throated and Bachman's Sparrows, Eastern Towhee, Summer Tanager, Northern Cardinal, Blue Grosbeak, and Indigo Bunting.

WHEN TO GO
Year-round, but especially good in fall and winter. Best in the morning. Fall mornings after a cold front has moved through can yield high numbers of migrant songbirds.

AMENITIES
Restrooms available at the soccer field complex. Well-maintained trails with several short boardwalks and bridges over streams. Small observation platform looking over the shore of Lake Jackson at western end of the park. Food and drink not available but many restaurants within a short drive.

ACCESS
City park. No entrance fee, and free parking. Open all day and night year-round.

TIPS
Mosquitoes a nuisance in wetter areas of park in fall. Park hosts several annual athletic events that bring in many people. Best to go on a non-event weekend or during the week.

FOR MORE INFO
Elinor Klapp-Phipps Park, www.talgov.com/parks/parks-phipps.aspx. Apalachee Audubon Society, www.apalachee.org.

www.BirdWatchingDaily.com/hotspotsmap

AT A GLANCE

HABITAT
Marine and coastal habitats.

TERRAIN
Flat. Wheelchair-accessible.

BIRDS
More than 200 species. Winter: Brant, Northern Pintail, King and Common Eiders, Harlequin Duck, Black and White-winged Scoters, Long-tailed Duck, Common Goldeneye, Red-breasted Merganser, Red-throated and Common Loons, Red-necked Grebe, Great Cormorant, Ruddy Turnstone, Boat-tailed Grackle. Summer: American Oystercatcher, Piping Plover, Red Knot, Purple Sandpiper, Northern Gannet, Great Black-backed Gull, Least, Black, Royal, Common, and Forster's Terns, Peregrine Falcon. Rarities: Snowy Owl, Dovekie, Thick-billed Murre, Razorbill, Black Guillemot, Black-legged Kittiwake, Glaucous Gull, Parasitic Jaeger, Wilson's Storm-Petrel.

WHEN TO GO
Year-round.

AMENITIES
No facilities. Shops are driving distance. Beach is at the edge of the parking lot, walkway located along the inlet.

ACCESS
City park. Open 24 hours a day. Parking available. Parking: $3 per hour, first 30 minutes are free.

TIPS
Expect windy conditions year-round. Wear a hat and apply sunblock in summer. Binoculars and spotting scope are a must. Bring photography equipment for a rarity because one is bound to show up.

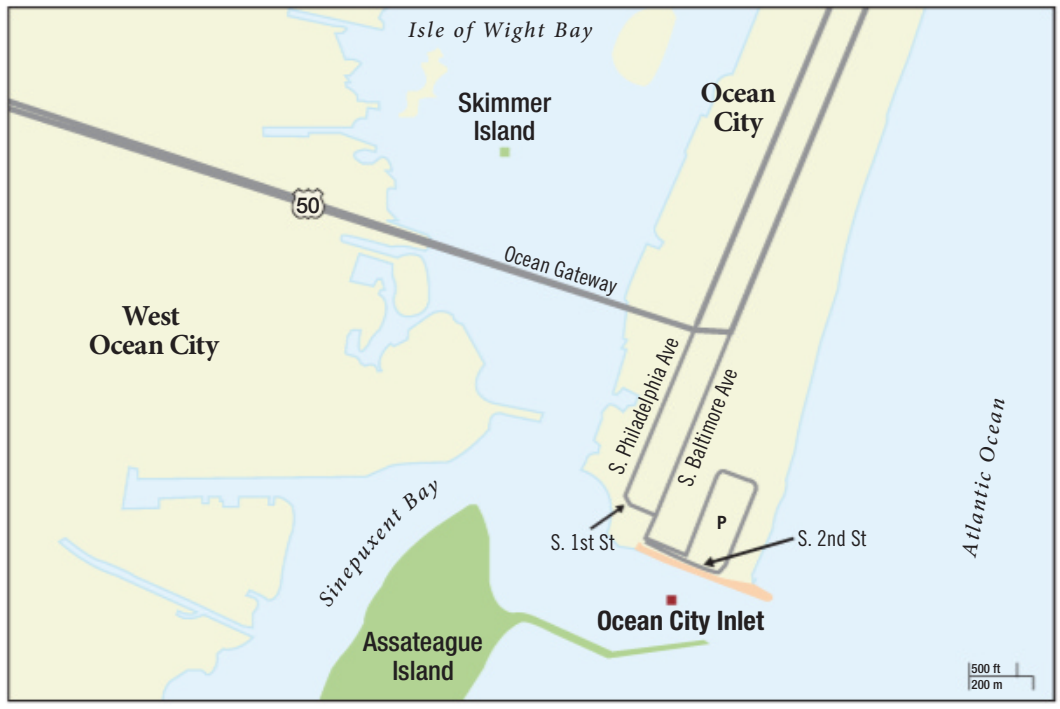
FOR MORE INFO
Ocean City Inlet Park, https://ococean.com/location/inlet-park. Tri-County Bird Club, https://mdbirds.org/join/chapters/tri-county-bird-club. Maryland Ornithological Society, https://mdbirds.org. Trusted local bird guide Anthony VanSchoor, https://www.mdbirder.net.

www.BirdWatchingDaily.com/hotspotsmap

ocean city inlet

worcester county, maryland

38°19'30.22"N 75°5'15.97"W



The Ocean City Inlet lies at the southernmost end of Ocean City. Take Rte. 50E./Ocean Gateway across the bridge into the city and turn right onto S. Philadelphia Ave. At S. 1st St., turn left then go right onto S. Baltimore Ave. Turn left onto S. 2nd St. and follow it until it ends at the Hugh T. Cropper Inlet Parking Lot. The inlet is on the right.

I've been visiting Ocean City since I was a child, but it wasn't until I became a birder that my eyes were opened to the species richness found here. A vagrant trap, this location is great year-round, especially for rarities. It's one of the few places I'm familiar with in Maryland that a birder has the chance, as I did, to list a Snowy Owl and a Dovekie on the same day.

The inlet is sandwiched between an adjacent parking lot and Assateague Island. A stone jetty runs along the island side, and a scope is necessary for viewing the Purple Sandpipers, Ruddy Turnstones, Great and Lesser Black-backed Gulls, and Great Cormorants that can be found on it. Because of the inlet's layout and the island's proximity to the parking lot, very close views of shorebirds, seabirds, sea ducks, and raptors on their way to Skimmer Island are plentiful. If you're a photographer, bring your big lens.

Skimmer Island is just a short drive away and a must to visit on your way to Assateague. In the summer, pelicans gather en masse on Skimmer Island and interesting terns always turn up. Ocean City, Maryland, is a mecca for birders who want to capitalize on an experience rich in diversity without getting on a boat or driving around all day. — *Orietta C. Estrada*

sites nearby

Skimmer Island
Less than a mile from inlet. Turn right onto S. Baltimore Ave. from the parking lot and turn left onto 3rd St. Parking on the right. Dense flocks of pelicans, terns, gulls, and other birds.

Assateague Island
Ten miles from the Inlet. Great views of Cattle Egrets on the backs of wild ponies. Piping Plover also possible. Snowy Owl possible in winter.

Orietta C. Estrada is the editor of The Maryland Yellowthroat, *a bimonthly publication of the Maryland Ornithological Society, and a wildlife columnist. She is also a master naturalist and vice president of the Frederick Bird Club.*

lake yosemite regional park

merced county, california

37°22'13.83"N 120°25'54.82"W

Lake Yosemite Regional Park surrounds the Lake Yosemite reservoir near Merced. From Merced, which is located between Modesto and Fresno in the San Joaquin Valley, take G St. north to Bellevue Rd. and turn right. Go 2 miles to Lake Rd., turn left, and continue for about half a mile into the park.

Located next to the newest University of California campus, Lake Yosemite Regional Park's diverse habitats make it a near cross-section of Merced County. When birding the eucalyptus grove during the spring and summer, keep an eye out for nesting Great Horned Owls, Ash-throated Flycatchers, and Bullock's Orioles. During migration seasons, the oak and willow groves host warblers, vireos, and flycatchers. The lake itself is a haven for deep-water birds including Common Goldeneye, Clark's and Eared Grebes, American White Pelican, Herring Gull, and Caspian Tern. Osprey are common year-round, and a pair of Bald Eagles winter annually, usually perched in a eucalyptus tree on the north shore.

Meanwhile, the grasslands surrounding the park are prime habitat for Long-billed Curlew (sometimes in the hundreds), Prairie Falcon, Burrowing Owl, and Horned Lark. During wet years, an ephemeral pond adjacent to the park hosts shorebirds and nesting Cinnamon Teal. Swainson's Hawks can be seen during spring and summer. Next to the entrance, a small marsh-like section adjacent to an irrigation canal can host Song Sparrow, Marsh Wren, and Sora. — *Nathan Parmeter*

Nathan Parmeter, a birder originally from Fresno, California, is a graduate student at the University of Maryland, College Park.

sites nearby

Fahrens Park
5 miles southwest of Lake Yosemite. A suburban park where Green Heron, Wood Duck, Red-shouldered Hawk, Red-breasted Sapsucker, and winter sparrows are reliable. Also good for migrant warblers and flycatchers.

Merced National Wildlife Refuge
17 miles southwest of lake. During winter and spring, ducks, Sandhill Cranes, Greater White-Fronted, Snow, and Ross's Geese and many other birds congregate in huge numbers.

AT A GLANCE

HABITAT
Deep-water manmade lake, open grasslands, ephemeral ponds, light woodlands, irrigation canals with some riparian areas.

TERRAIN
Flat. Most of the core part of park accessible by car, and whole park can be walked.

BIRDS
More than 140 species. Year-round: Clark's Grebe, Snowy Egret, Loggerhead Shrike, Nuttall's Woodpecker, California Scrub-Jay, Common Raven, Rock Wren, Lesser Goldfinch, Savannah Sparrow, Western Meadowlark. Winter: Bufflehead, Common Goldeneye, Eared Grebe, Greater Yellowlegs, Red-breasted Sapsucker, Say's Phoebe, Hermit Thrush, Phainopepla, Orange-crowned Warbler. Breeding: Swainson's Hawk, Ash-throated Flycatcher, Bullock's Oriole, Black-headed Grosbeak. Migration: Warbling Vireo, Wilson's and Black-throated Gray Warblers, Western Tanager. Rare: Cackling Goose, Common Loon, Forster's Tern, Lesser Nighthawk.

WHEN TO GO
Good year-round; best mid-March to May and mid-September to February.

AMENITIES
Drinking fountains, restrooms, and picnic tables. A boardwalk next to the main picnic area allows for easier viewing of the northern portion of the lake.

ACCESS
County park. Automobile entrance fee of $6. Open from sunrise to sunset.

TIPS
Wear sunscreen and have a hat from March through November. During winter, be careful when driving to the park on foggy mornings. A spotting scope is recommended to view the northern part of the lake and the surrounding grasslands from the park.

FOR MORE INFO
Lake Yosemite County Park, www.co.merced.ca.us/769/Lake-Yosemite. Fresno Audubon Society, www.fresnoaudubon.org.

www.BirdWatchingDaily.com/hotspotsmap

AT A GLANCE

HABITAT
Low salt marsh with mudflats, islands, and salt pans.

TERRAIN
The best way to explore the Back Bay is by boat.

BIRDS
Spring: Lingering waterfowl, nesting Osprey, and migrant shorebirds, including Whimbrel, Lesser Yellowlegs, Dunlin, Short-billed Dowitcher, Semipalmated Sandpiper. Summer: Laughing Gull, Common and Forster's Terns, Black Skimmer, Black-bellied Plover, Clapper Rail, Great Blue and Tricolored Herons, Yellow-crowned and Black-crowned Night-Herons. Fall: Migrant hawks and falcons, Bald Eagle, and egrets. Winter: Bufflehead, Long-tailed Duck, Common Loon, Purple Sandpiper, and Great Cormorant. Rarities: Bar-tailed Godwit, Brown Booby, Franklin's Gull.

WHEN TO GO
Early to mid-May to see the most species. Mid-May through June for shorebirds. Fall for raptors.

AMENITIES
Loaner binoculars, snacks and beverages, and a restroom onboard.

ACCESS
Private pontoon boat. *The Osprey*, which has a capacity of 36 guests, runs 2.5- to 3-hour trips daily from end of April through end of October. Prices: $30 for adults, $18 for children 6-12. Cape May Bird Observatory sponsors trips a few times per week; $30 for members, $35 for non-members, $20 for children. Book tickets online or call *The Osprey* office.

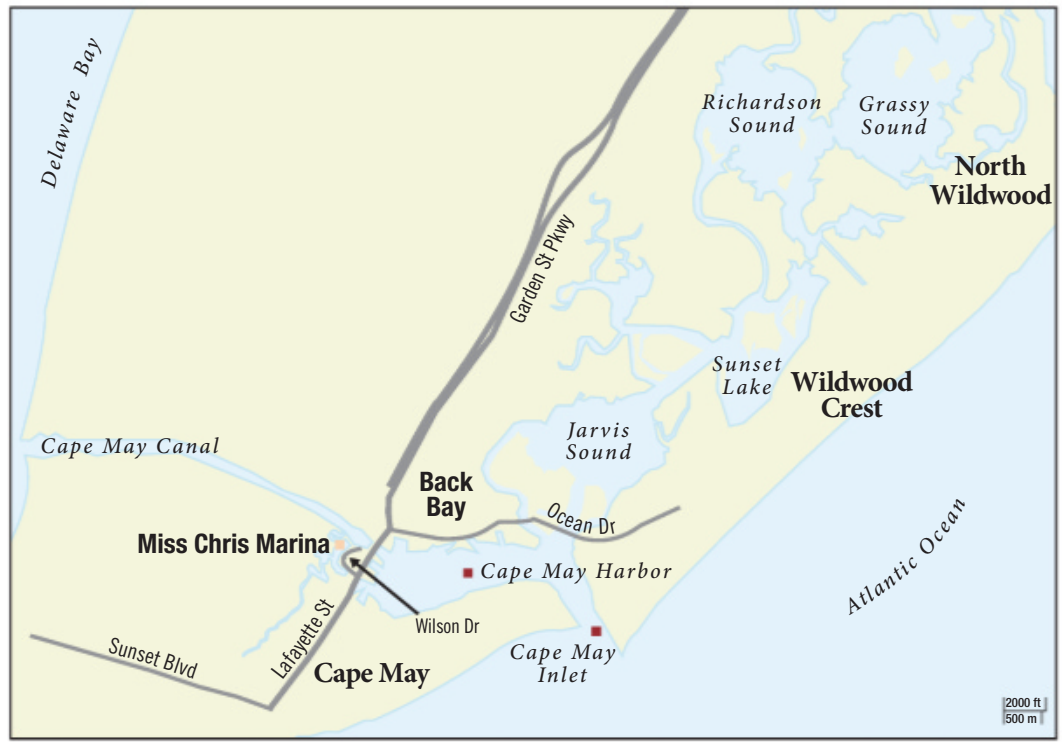
TIPS
Bring a camera; the views are extraordinary. *The Osprey* has windows that open, but spend time on the front deck.

FOR MORE INFO
Birding on *The Osprey*, (609) 898-3500, www.ospreycruise.com. Cape May Bird Observatory, https://njaudubon.org/centers/cape-may-bird-observatory.

www.BirdWatchingDaily.com/hotspotsmap

back bay of cape may

cape may, new jersey
38°56'59.63"N 74°54'38.98"W



The Back Bay includes Cape May Harbor, Cape May Canal, and waters going up to North Wildwood. The boat *The Osprey* docks at Miss Chris Marina at 1218 Wilson Dr. Take the Garden State Pkwy. south to the end, and go over the bridge into Cape May. Turn right on Wilson Dr. and continue on Wilson to the parking lot for the marina. Free parking.

Cape May offers many ways to experience spring and fall migration of hundreds of species. But to get close to shorebirds, get on the water.

Since 1994, Bob Lubberman has been running birding safaris on the Back Bay, New Jersey's southernmost salt marsh, aboard his pontoon boat, *The Osprey*. Captain Bob grew up along the Atlantic Ocean and Delaware Bay, working on fishing boats since he was 13. For the past eight years, he has been navigating 200 birding trips a year, often accompanied by Vince Elia, a former Audubon researcher. They know every creek, island, spit, and mudflat, and the likely places to find birds that drop in or stay for a season.

Every trip is different, depending on conditions, the tide, time of year and, mainly, what Bob knows is out there. If it's spring, expect tens of thousands of Laughing Gulls. You'll encounter 100 pairs of Osprey along the way, nesting on buoys, manmade platforms, and a shipwreck, as well as a Peregrine Falcon family roosting precariously below a drawbridge.

In tall grasses, Whimbrels try to blend in and Tricolored Herons peek up like periscopes. Later, we spot a Clapper Rail nest Bob accidently discovered on a previous trip. Unforgettable. — *Alan Jaffe*

Alan Jaffe is a former editor at the Philadelphia Inquirer. *He last wrote about the Discovery Center in Philadelphia's Fairmount Park.*

sites nearby

Higbee Beach Wildlife Management Area
About 5 miles west of Miss Chris Marina. Old-growth forest and other habitats attract a wide range of migrant songbirds.

Cape May Point State Park
About 4 miles southwest of Miss Chris Marina. Covers 244 acres, with easy trails and boardwalk through woodlands, wetland marsh, and coastal dunes, and a platform for watching raptor migration.

RAPTORIAL: One buteo species with identifiable subspecies is Red-shouldered Hawk. The subspecies from South Florida, shown here, is paler than its eastern and western counterparts.

North America's raptors

A primer on hawks, eagles, and their kin

Most eagles, hawks, and falcons are specialized for capturing and feeding on birds and mammals. The Bald Eagle and Osprey prefer fish. All have a sharply hooked beak, toes that end in curved claws for grasping, and exceptional vision for spotting prey. The large, curved claws (talons), when closed, will puncture prey and are great for tearing flesh. These raptorial feet give birds of prey the name *raptors*.

Evolution met the birds' visual needs by packing the retina with huge numbers of sensory cells (rods and cones), ranking raptors at the top of all birds in this trait. (The capability of human eyes isn't even close.) Throughout the avian class, males are larger than females for almost all species. Raptors are an exception, as almost all females are larger than males, some markedly so, and the reason is still not clear.

Hawk-watching season is upon us, so I thought it would be a good time to provide an overview of North American raptors.

Eagles are spectacular because they are eagles. They are huge, powerful, and graceful, with a fierce disposition. We have two: the Golden Eagle, which is found worldwide in the Northern Hemisphere, and the Bald Eagle, restricted to the New World. Females of both can reach 15 pounds with 7-foot wingspans. The Golden is a fast flyer and dives at great speeds. It prefers medium-size birds and

Eagles are spectacular because they are eagles. They are huge, powerful, and graceful.

mammals, while the Bald is a common scavenger well adapted to take fish.

Osprey are grouped with the hawks and eagles but placed in their own family. Their wings are long and narrow with a crook in each wing, creating an "M-like" pattern. Osprey are well designed for a fish diet with long, sharp talons and a long, sharply hooked bill. They even have small spines (spicules) on the bottoms of their feet to help hold slippery fish. Because Osprey and Bald Eagles share similar habitat, they have frequent interactions. Osprey often drop their fish when attacked by an eagle, and the eagle dives to grab the fish, usually before it hits the water.

Hawks include raptors with broad, rounded wings. In some, called **accipiters**, the wings are short, and the birds have long tails. They feed primarily on small birds in forested habitats, where the powerful wings give bursts of speed and the long rudder-like tail provides maneuverability as they twist through the trees. The three accipiters in North America are the Northern Goshawk, the size of a large hawk; Cooper's Hawk, the size of a crow; and Sharp-shinned Hawk, a little bigger than a Blue Jay.

Buteos have large, wide wings that are longer and wider than those of accipiters, and their tails are short and often fanned out. The large, broad wings and wide tails significantly increase lift, facilitating soaring and slow flight, allowing the birds to find and capture small mammals. Buteos include small to midsize hawks, such as Broad-winged and Red-shouldered, as well as large hawks like Red-tailed

Wilfred Marissen/Shutterstock

and Rough-legged.

Accipiters and buteos also have different flight patterns. Accipiters tend to fly in a straight line, alternating flapping with gliding, while buteos typically soar in a circular pattern with occasional wing beats.

Most of the world's 16 **harrier** species are found in the Old World. The only one in North America is Northern Harrier, a medium-size hawk with long, narrow wings and a long tail. Harriers have an owl-like facial disc that concentrates and directs sound waves to the ear openings. They forage by flying low to the ground (as low as 3 to 5 feet) with wings elevated. They turn their heads to increase the area searched for sound. They prefer open places, such as grasslands, old fields, and edges of wetlands.

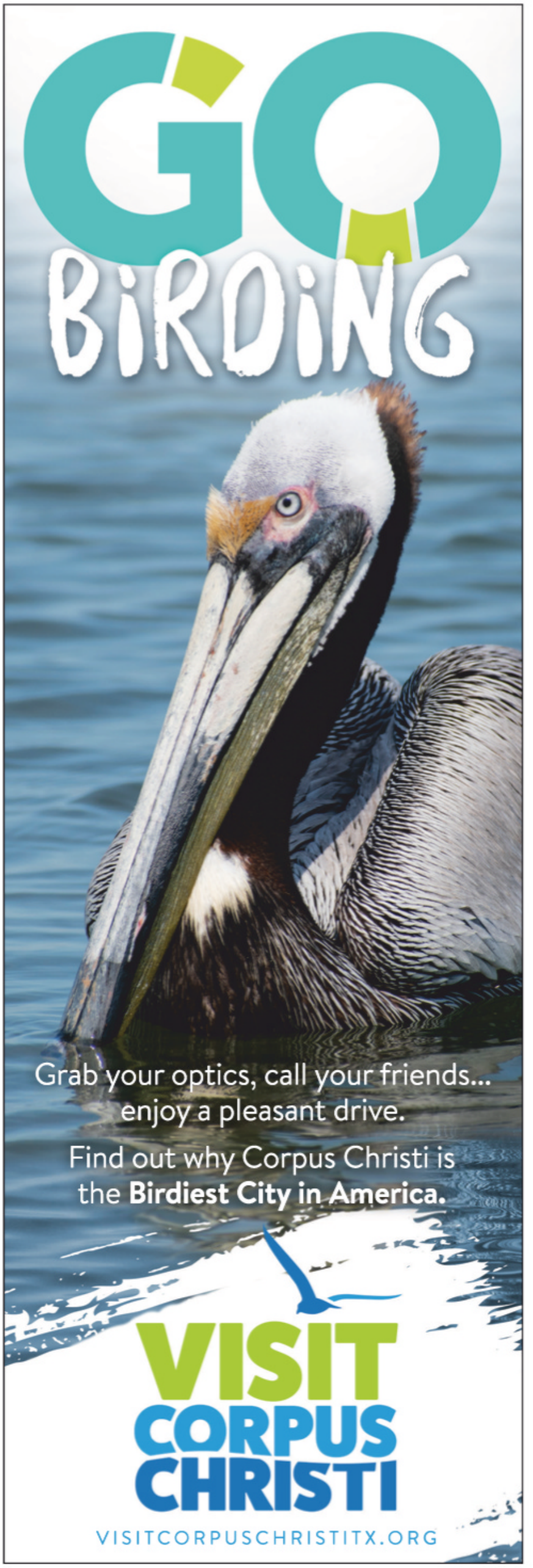
Falcons differ from hawks and eagles and are placed in a separate order. Their narrow wings with pointed wing-tips are built for speed, as this design minimizes drag. Another adaptation of falcons is a "toothed" bill (actually a notch in the upper mandible) that is used to separate cervical vertebrae while dispatching prey. The larger falcons capture birds in mid-air by striking them with great force. In a dive, a falcon brings the wings close to its body, creating less drag. The smaller Merlin prefers small birds but takes them from perches or in flight without big dives. Our smallest falcon, American Kestrel, is about the size of a robin. While it often hunts from perches, it has also mastered hovering. It eats more mice and voles than it does birds.

A subfamily of the falcons are the **caracaras**, a group of 11 species mostly found in South America and Central America. Crested Caracara is the only member of the group found north of Mexico — mostly in Arizona, Texas, and Florida. The species has wandered widely in recent years, as far north as central Alberta.

Most raptors hunt larger prey, but most **kites** tend to feed largely or exclusively on insects and snails. White-tailed Kite is an exception, targeting rodents primarily. Our Mississippi and Swallow-tailed Kites are migratory, while White-tailed, Snail, and Hook-billed Kites are resident species.

Raptors are among the most fascinating of birds. They are strong yet graceful flyers, capable of complicated flight maneuvers to capture prey under a variety of conditions — adding to their seemingly unending list of amazing behaviors.

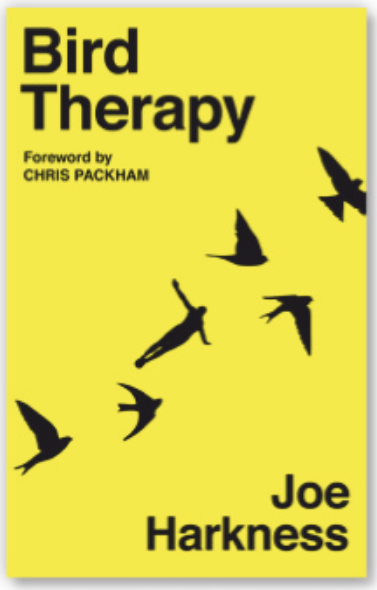
Eldon Greij is professor emeritus at Hope College, located in Holland, Michigan, where he taught ornithology and ecology for many years. He is the founder of *Birder's World* magazine. You can find an archive of his "Amazing Birds" columns on our website at www.BirdWatchingDaily.com/news/science.



Truth and clarity

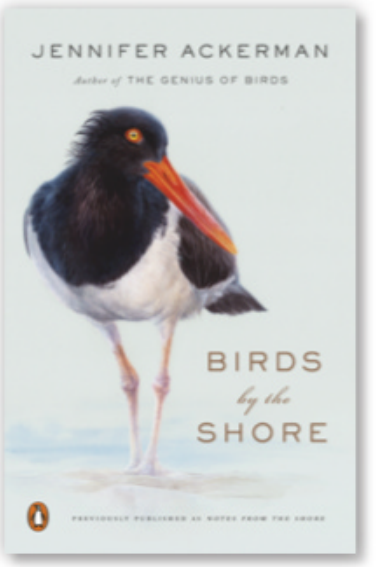
8 new books about birds, life, and our planet

Bird Therapy, *by Joe Harkness, Unbound, hardcover, 2019, 304 pages, $18.60.*



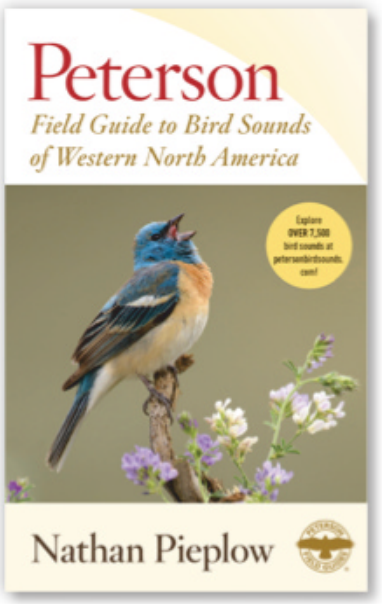
Few birders' stories are as profound and moving as that of Joe Harkness. In 2013, he attempted to take his own life. His healing process involved counselling and mindfulness — and along the way he discovered birds. They improved his mental health to the point where he started a blog and later wrote this book, in hopes of helping others address their own stresses. Harkness is British, so the book focuses on birds and locations in the U.K., but the message is universal: Birds can provide therapy for anyone who takes time to notice them.

Birds by the Shore: Observing the Natural Life of the Atlantic Coast, *by Jennifer Ackerman, Penguin Random House, 2019, paperback, 224 pages, $16.*



Three years ago, we recommended Jennifer Ackerman's *The Genius of Birds,* which explains the subject of bird intelligence to lay readers. Now we're happy to suggest *Birds by the Shore,* an account of a few years of Ackerman's life along the shores of Delaware. Here she reflects on encounters with shorebirds, ghost and horseshoe crabs, sea worms, snakes, and whales while considering her own story — her mother's death, her parents' separation, and her hopes for the future.

Peterson Field Guide to Bird Sounds of Western North America, *by Nathan Pieplow, Houghton Mifflin Harcourt, vinyl bound, 2019, 648 pages, $28.*



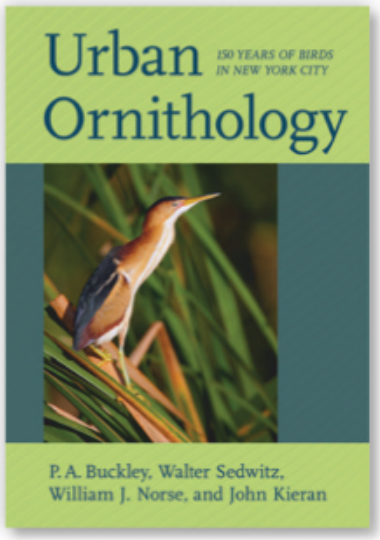
Birding without knowing what birds sound like is like trying to walk when your leg is in a cast. You can get places, but you're likely to stumble more often than not. This book, which complements the author's guide to eastern bird sounds, is a new tool for learning songs, calls, drumming, wing flaps, wails, hoots, and other sounds. It presents spectrograms for the various sounds made by 537 western species, allowing readers to translate what they hear into visual recognition, without musical training or auditory memorization. An affiliated website, petersonbirdsounds.com, features more than 7,500 bird sounds.

Peterson Reference Guide to Sparrows of North America, *by Rick Wright, Houghton Mifflin Harcourt, hardcover, 2019, 448 pages, $35.*

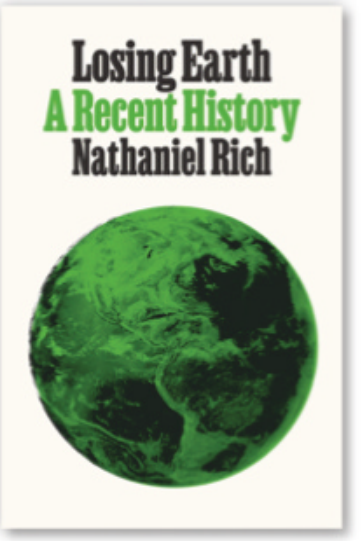
This book, from tour leader, author, and scholar Rick Wright, is a thorough resource for the identification of 76 kinds of sparrows, juncos, towhees, and brush finches that breed in "zoogeographic North America, or the Nearctic region" — Canada and the United States south into Mexico where a volcanic belt crosses from Jalisco to Veracruz. Wright covers not only field-ID tips for each bird, but he also summarizes how ranges have expanded or contracted over time. And he goes further, telling the fascinating history of human interactions with sparrows. We learn, for example, about Audubon's incorrect assumptions about the Rufous-crowned Sparrow, a bird of Latin America.

Urban Ornithology: 150 Years of Birds in New York City, *by P. A. Buckley, Walter Sedwitz, William J. Norse, and John Kieran, Cornell University Press, 2018, hardcover, 536 pages, $75.*

New York City is arguably more important to American bird study than any other large metro area. It's the home of the National Audubon Society and the Linnaean Society, to name a few important groups. The last book about the city's birdlife, however, is more than 50 years old, so we're thrilled with this new tome. It provides an historical analysis of the region's birds from 1872 to 2016, describing 301 species plus 70 potential additions.

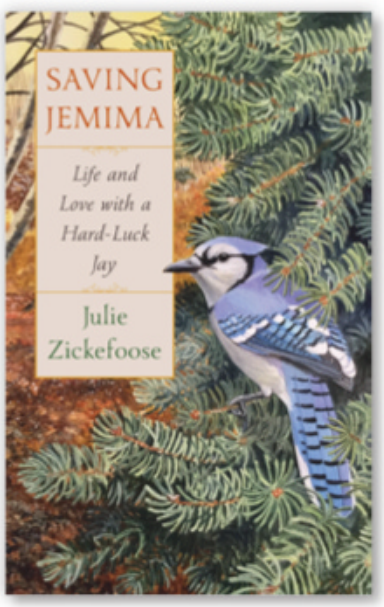


Losing Earth: A Recent History, *by Nathaniel Rich, Farrar, Straus, and Giroux, hardcover, 2019, hardcover, $25.*



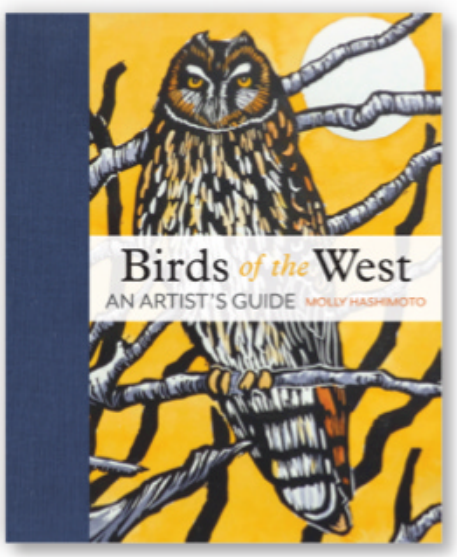
In August 2018, *The New York Times Magazine* devoted an entire issue to one article: Nathaniel Rich's "Losing Earth: The Decade We Almost Stopped Climate Change," which focused on efforts to warn humanity about global warming in the 1980s. This book delves into more of the history and brings us up to the present. Featuring prescient scientists, underdog activists, and the consistent suppression by politicians of a truth that could not be more crucial to everyone, *Losing Earth* is a sad, infuriating tale.

Saving Jemima: Life and Love with a Hard-Luck Jay, *by Julie Zickefoose, Houghton Mifflin Harcourt, hardcover, 2019, 272 pages, $25.*



In Julie Zickefoose's latest book, the artist and wildlife rehabilitator tells the story of Jemima, a young Blue Jay that came into her care. She fed it, raised it, released it, and nursed it back to health after a brush with a deadly disease. Considering the neighborhood Sharp-shinned Hawk, Zickefoose writes, "I can only describe the process of raising a bird for release as a prolonged lesson in letting go." Zickefoose shares other lessons she learned from the experience, including that subtle markings around the face and throat can distinguish individual jays. A fascinating, honest, and heartfelt read.

Birds of the West: An Artist's Guide, *by Molly Hashimoto, Mountaineers Books/Skipstone, hardcover, 2019, 176 pages, $22.95.*



Seattle-based artist Molly Hashimoto leads plein air watercolor painting and printmaking workshops at western art institutes, and her work has been featured in galleries around the country. In this, her latest book, she showcases more than 120 paintings of nearly 100 bird species of the West using different media — from quick sketches with pen and ink to carefully planned and vivid block prints. Sprinkled throughout the book are notes about her techniques on certain paintings, such as a detailed study of a Golden Eagle's head and a rendition of a Great Blue Heron's movements.

From our readers!

Stellar snaps

▲ **BUTCHERBIRD:** This Loggerhead Shrike has been a resident on Moody Air Force Base, in Valdosta, Georgia, for a few years. Robert Emond shot the photo on a cold, crisp morning with a Canon Rebel T6i and a 100-400mm lens.

◀ **SUMMER SONG:** This male Kirtland's Warbler was perched and singing in the top of a jack pine near the Au Sable River, near Grayling, Michigan. Steve Henthorne of Newark, Ohio, took the photo with a Nikon D500 and a 200-500mm lens.

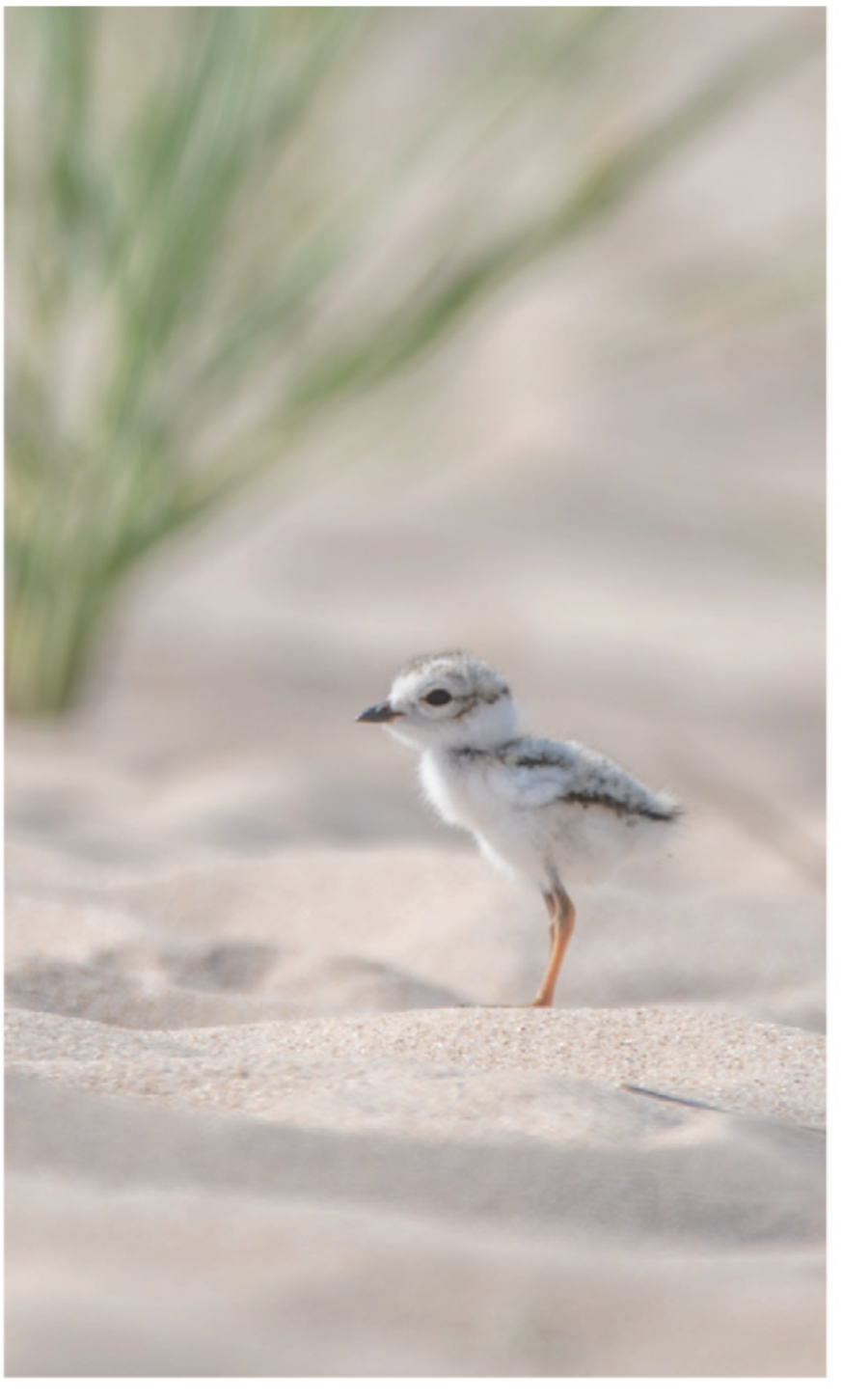
▶ **SHOWING OFF THOSE GOLDEN SLIPPERS:** Bonnie Graham of Lombard, Illinois, photographed this Snowy Egret on a preserve at Lake Martin in Louisiana. She used a Canon 70D with a 100-400mm lens.

▲ **CROSSING PATHS:** Two Yellow Warblers pause on branches at the Parker River National Wildlife Refuge in Massachusetts. Michael Rossacci used a Canon 7D, 300mm lens, and a 1.4x extender.

▲ **DIGGING IN:** After Leslie French of New Maryland, New Brunswick, read "Keys to Attracting Orioles" by Laura Erickson in our June issue, she put out orange slices to see what would happen. Within a couple days, this Baltimore Oriole turned up in her backyard. She used a Canon Rebel T6i with a 55-250mm lens.

◀ **STUNNING:** This Painted Bunting was sighted foraging at an abandoned ranch in Radium Springs, New Mexico, in June. Nirmal Khandan made the photo with a Nikon D850 and a 200-500mm lens, handheld.

▲ **THREE'S COMPANY:** John M. Deacon of Orcutt, California, photographed these juvenile Western Kingbirds on June 22 near the town of Sisquoc in Santa Barbara County. He used a Sony Cyber-shot DSC-RX10 IV.



▶ **ADORABLE:** A one-week-old Piping Plover stands on the beach in Muskegon, Michigan. Blair Celano took the photo with a Nikon D850 and a 150-600mm Sigma lens.

SO. MANY. BIRDS.

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▲ **A MARVEL OF NATURE:** A Ruby-throated Hummingbird hovers near flowers in Centreville, Maryland. Scott Prince shot the photo with a Canon 1 DX Mark II and a 400mm f/5.6 prime lens.

▲ **JUST PASSING THROUGH:** Andrew Lyall took this photo of a Clay-colored Sparrow in his yard in Corpus Christi, Texas, in April with a Nikon D7200 and a Tamron 150-600mm G2 lens.

Correction

On page 54 of our July/August issue, we misspelled the last name of Ian Doris in the caption for his photo of a Blue-gray Tanager. We regret the error.

Let's hear from you!

Submit photos as full-resolution, high-quality JPG files via email (no TIFFs, please). Include a short description of the photo; include the bird name, the equipment used, and the location. Please include your name, address, phone number, and email address. If we publish a story or photo of yours, we'll send you a complimentary copy of the issue in which it appears. There's no payment for use of text or photos in "Your View."

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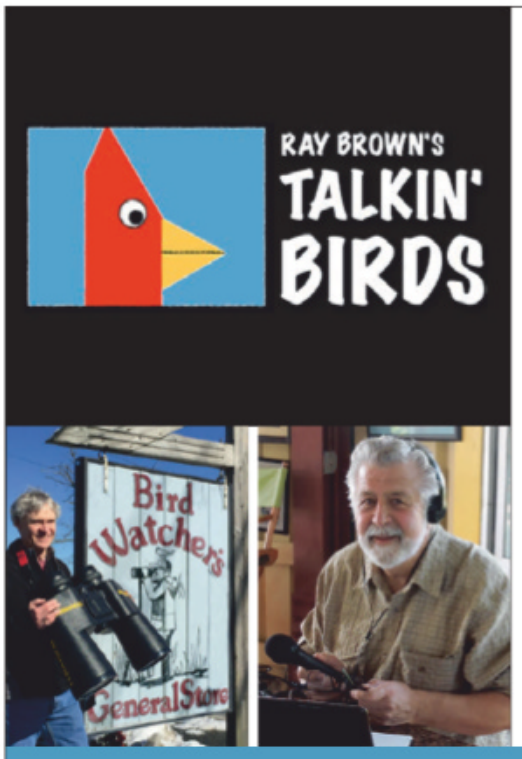

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VARIABLE APPEARANCE: An American Crow showing its glossy wings and tail and black lores.

A closer look at crows

Why a crow might not appear to be 'all black'

It's easy to say that a crow is "all black." You don't have to be a birdwatcher to know that all of a crow's feathers are black. But a closer look reveals that, at any given moment, even though all of the crow's feathers are the same color, they do not all look the same. This is partly because of body contours and real-world lighting effects and partly because the feathers on different parts of the body have different textures.

Imagine a jacket made of alternating strips of different fabrics: velvet, cotton, and silk. Even if all of the fabric was dyed to exactly the same color (for example, black), the distinctive textures would make the strips of different fabrics obvious. The different textures of feathers on a bird create similar effects.

In a typical landbird like a crow, the body feathers are always relatively soft and flexible, while the large feathers of the wings and tail are stronger, straighter, and stiffer. As a general rule, the body feathers have little or no gloss (with the notable exception of iridescent species like grackles and others). Wing and tail feathers, on the other hand, always have a slightly glossy sheen no matter the species or the color.

Imagine a jacket made of alternating strips of different fabrics: velvet, cotton, and silk.

One small patch of feathers that is never glossy is the lores — the small area between the eye and the bill. Feathers there are tiny and upright, creating a fuzzy or bristly surface more like velvet. If those feathers are colored black, as they are on crows and many other species, they reflect no light at all and appear truly black. On crows and other black birds, the lores always appear solid black, in contrast with the slight sheen on the forehead and cheeks.

The broad pattern shown by the crow depicted above is common to many species of birds. Feathers on the lores are never glossy. Feathers on the head and underside are a little bit glossy, and feathers of the wings and tail are always subtly glossy. It's easy to appreciate these differences on a crow or some other uniformly colored bird. It's less obvious on, say, a sparrow, but feather texture still has a consistent effect on how we perceive the colors of the bird.

David Allen Sibley is the author of *The Sibley Guide to Birds, Second Edition, Sibley's Birding Basics*, and field guides to the birds of eastern and western North America. In our last issue, he explained the four distinct groups of shorebirds.

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BirdWatching

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Ocean City Inlet

TARGET BIRDS

Enjoy this photo gallery of species that you can see at the locations featured in this issue's "Hotspots Near You."

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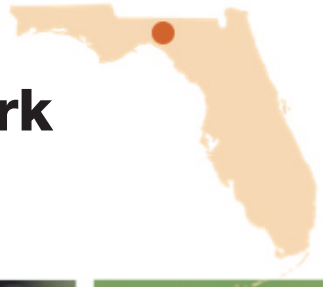
elinor klapp-phipps park
tallahassee, florida



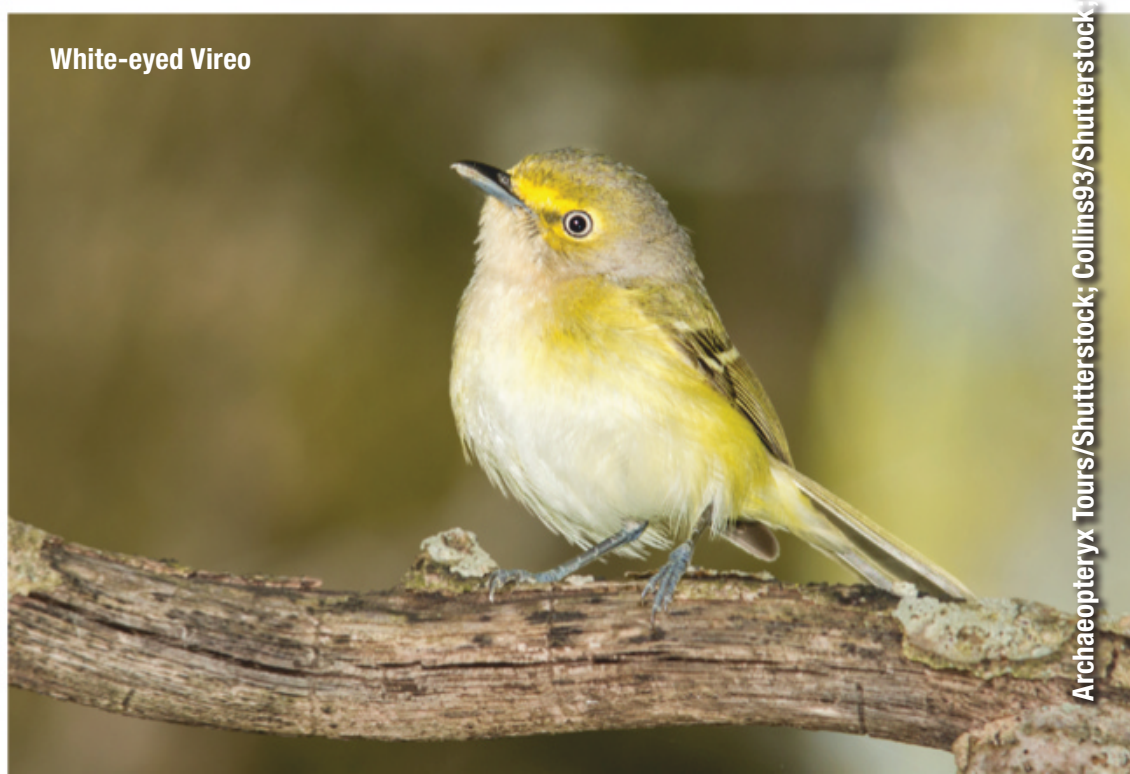
Bachman's Sparrow

Blue Grosbeak

Summer Tanager

Cerulean Warbler

Pileated Woodpecker



White-eyed Vireo

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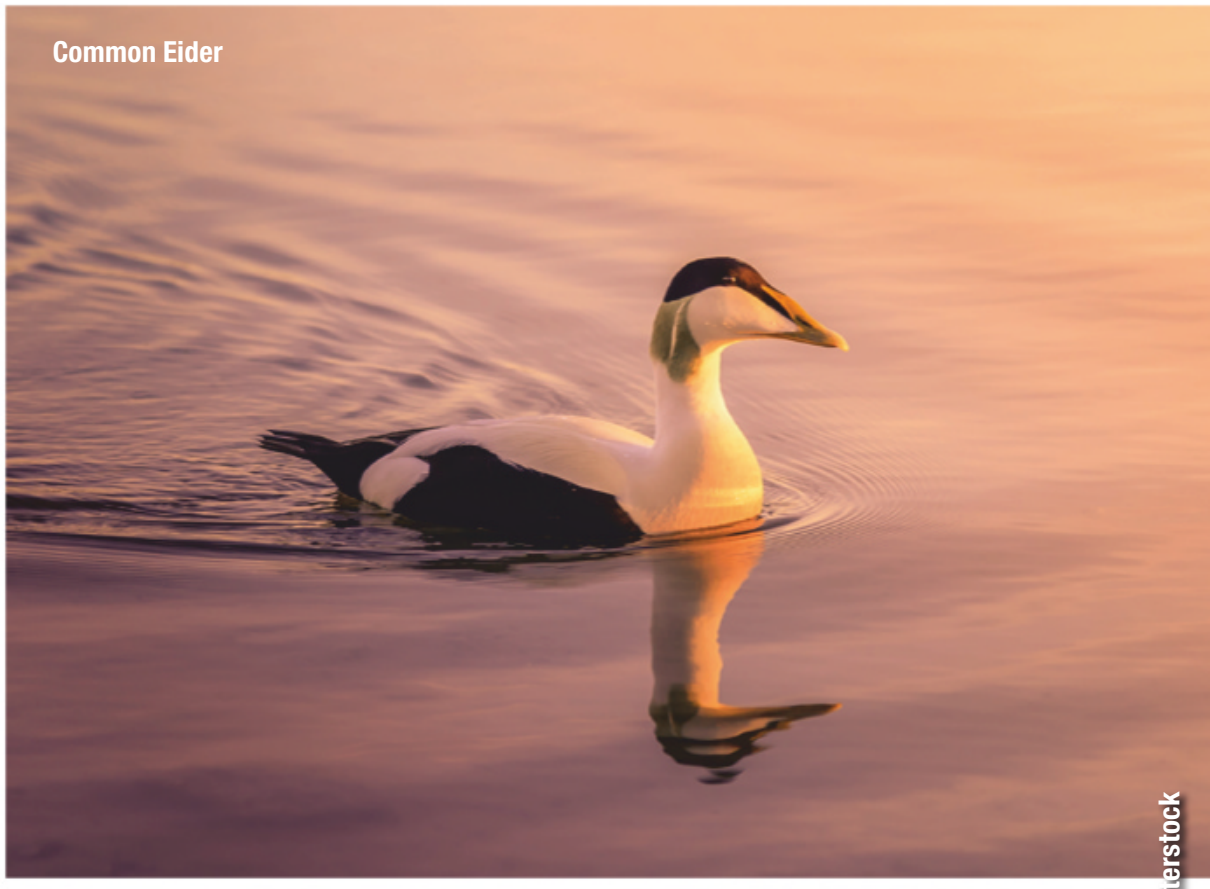
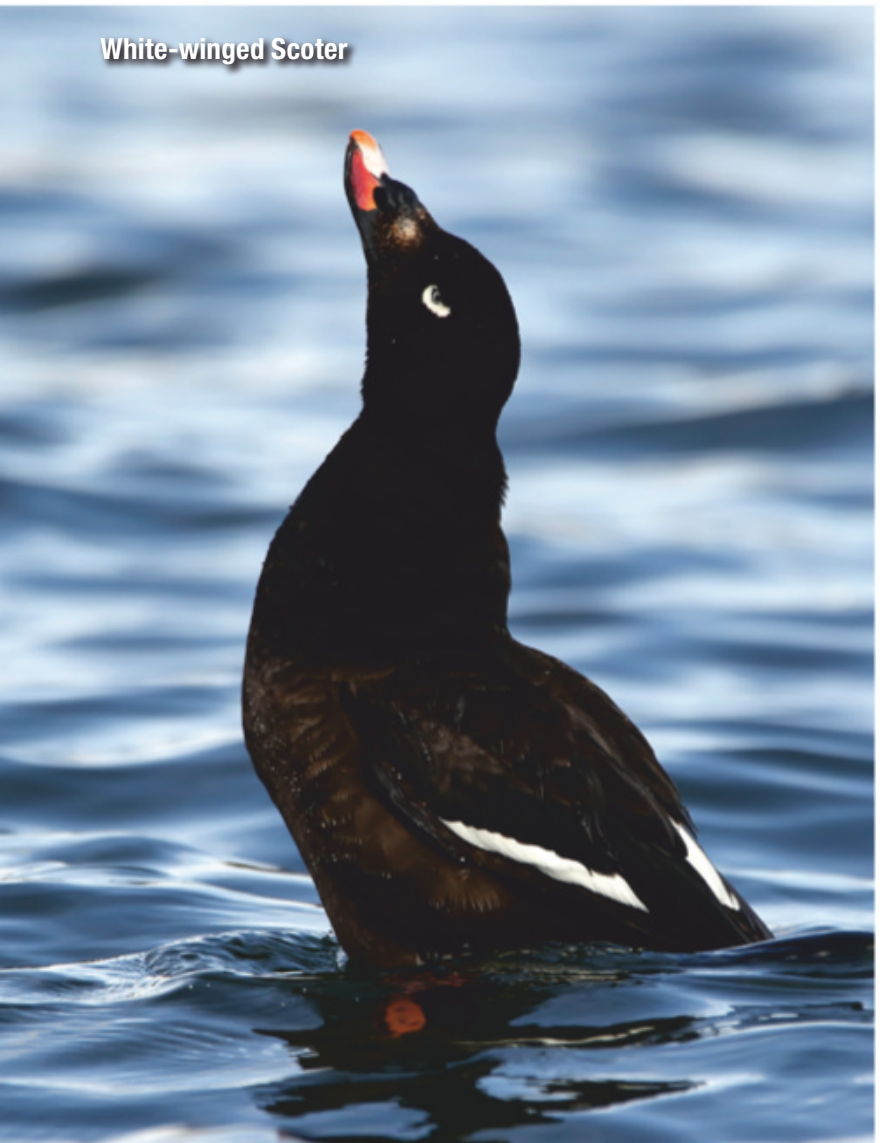
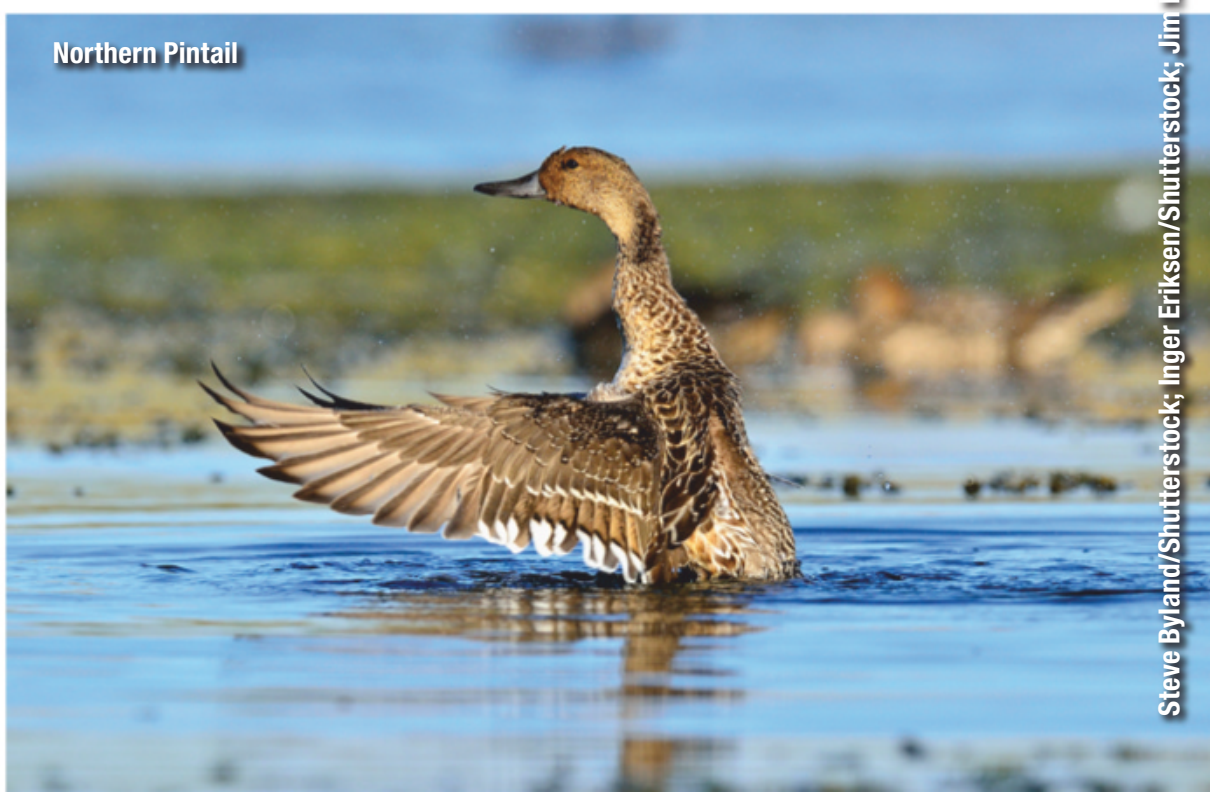
ocean city inlet
worcester county, maryland

Harlequin Duck


Common Eider

Dovekie


White-winged Scoter


Northern Pintail

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Prairie Falcon

Clark's Grebe

Long-billed Curlew

Cinnamon Teal

Red-breasted Sapsucker

Black-headed Grosbeak

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back bay of cape may
cape may, new jersey

Purple Sandpiper

Black Skimmer

Dunlin

Tricolored Heron

Clapper Rail

Whimbrel

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